AMERICAN ANNALS OF THE DEAF

FOUNDED 1847

Official Organ

Conference of Executives of American Schools for the Deaf

FOUNDED 1868

Convention of American Instructors of the Deaf

FOUNDED 1850

POWRIE VAUX DOCTOR, Ph.D.
Editor

Under the Direction of the Executive Committee of the Conference

MARSHALL S. HESTER	New Mexico, 1960
Chairman	
ARCHIE F. LEARD	Saskatchewan, Canada, 1959
CARL F. SMITH	North Dakota, 1959
WILLIAM J. MCCLURE	Indiana, 1960
HUGO F. SCHUNHOFF	West Virginia, 1960
STANLEY D. ROTH	Kansas, 1960
EDMUND B. BOATNER	Connecticut, 1960
THOMAS K. KLINE	Illinois, 1960
GEORGE T. PRATT	Massachusetts, 1961
DANIEL T. CLOUD	New York 1961

MARCH, 1959

Volume 104 **Number 2**

THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF

President ..... Marshall S. Hester, New Mexico
Vice President ..... Wilford W. McClure, Indiana
Secretary ..... Hugo F. Schreiber, West Virginia
Treasurer ..... Stanley D. Roth, Kansas
Chairman, Committee on Certification ..... Howard M. Quigley, Minnesota
Secretary, Committee on Certification ..... Richard G. Brill, California

The Conference of Executives of American Schools for the Deaf, originally the Conference of Superintendents and Principals of American Schools for the Deaf, was founded in 1868 and subsequently incorporated under the laws of the State of Maryland in 1958. The Conference is an organization of the executive heads of schools for the deaf in the United States and Canada, and has for its object "to promote the management and operation of schools for the deaf along the broadest and most effective lines and to further and promote the general welfare of the deaf."

THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF

President ..... Edward R. Abernathy, Ohio
First Vice President ..... Richard G. Brill, California
Second Vice President ..... William J. McClure, Indiana
Secretary ..... Sister Rose Catherine, New York
Treasurer ..... Thomas Dixon, New Mexico
Editor, Proceedings ..... William J. McClure, Indiana

Directors

Edward W. Thalinger, Arizona
Myron A. Leenhouts, California
Joseph G. Demeza, Ontario, Canada
James H. Galloway, New York

The Convention of American Instructors of the Deaf, founded in 1850 and incorporated by act of Congress in 1[illegible], is an organization of educators of the deaf in the United States and Canada with the general object of "promotion of the education of the deaf along the broadest, most advanced, and practical lines," and for that purpose "to secure the harmonious union in the organization of all persons professionally engaged in educating the deaf in America."

VOLUME 104 NUMBER 2

AMERICAN ANNALS OF THE DEAF

FOUNDED 1847

OFFICIAL ORGAN

Conference of Executives of American Schools for the Deaf

FOUNDED 1868

Convention of American Instructors of the Deaf

FOUNDED 1850

POWRIE VAUX DOCTOR, Ph.D
Editor

Under the Direction of the Executive Committee of the Conference

MARSHALL S. HESTER	New Mexico, 1960
Chairman	
ARCHIE F. LEARD	Saskatchewan, Canada, 1959
CARL F. SMITH	North Dakota, 1959
WILLIAM J. MCCLURE	Indiana, 1960
HUGO F. SCHUNHOFF	West Virginia, 1960
STANLEY D. ROTH	Kansas, 1960
EDMUND B. BOATNER	Connecticut, 1960
THOMAS K. KLINE	Illinois, 1960
GEORGE T. PRATT	Massachusetts, 1961
DANIEL T. CLOUD	New York, 1961

MARCH, 1959

The American Annals of the Deaf

The AMERICAN ANNALS OF THE DEAF was founded in 1847 at the American School for the Deaf in Hartford, Connecticut, by the members of the faculty of that school, which is the first free public school for the deaf in America. Although the journal received the approval of the administrative school authorities, the periodical was first entirely sponsored by the members of the faculty. After two years the ANNALS was discontinued for some months but was revived by the members of the Convention of American Instructors of the Deaf in their first meeting in New York, N. Y., in 1850.

In June, 1861, the publication ceased because of the War Between the States, inasmuch as the membership of the Convention was made up of northerners and southerners in almost equal proportion. In September, 1868, the AMERICAN ANNALS OF THE DEAF resumed publication with the editorial offices on Kendall Green, in Washington D. C., where it has since remained.

The AMERICAN ANNALS OF THE DEAF is the official organ of the Conference of Executives of American Schools for the Deaf, which was organized in 1868, and of the Convention of American Instructors of the Deaf, founded in 1850. According to the Library of Congress it is the oldest educational publication in the United States still in existence. It is also the oldest journal on the education of the deaf in the world.

The ANNALS is published five times a year, being issued in September, November, January, March, and May. The subscription price is $5.00 a year, payable in advance. If five or more copies of the ANNALS are sent to one address, the subscription price is $3.50 a year. Single numbers sell for one dollar, except for the January number which sells for $3.00. Back issues are available for 1847, 1848, 1849, 1857, and from September, 1868, to the present. Indexes for 1847–1875, 1876–1885, 1886–1895, 1896–1905, are available at $4.00 each. Indexes for 1906–1915, 1916–1925, 1926–1935, 1936–1945, 1946–1955, were issued as regular numbers of the ANNALS and may be purchased for $3.00 each. From 1956 indexes are included in the regular November numbers at single copy price. All requests for subscriptions or for back numbers should be addressed to Editor, AMERICAN ANNALS OF THE DEAF, Gallaudet College, Washington 2 D. C.

Printed by Intelligencer Printing Co., Lancaster, Pa. Editorial office: Gallaudet College, Washington 2, D. C. Entered as second class matter at the Post Office at Lancaster, Pa., November, 25, 1953. Acceptance for mailing at the special rate of postage provided for in the act of February 28, 1925, authorized June 25, 1932. Subscriptions made payable to the AMERICAN ANNALS OF THE DEAF may be sent to the Editor, Gallaudet College, Washington 2. D. C.

THE AMERICAN ANNALS OF THE DEAF is published bi-monthly during the school year, appearing in the months of January, March, May, September, and November. The subscription is $5.00 a year, payable in advance; January number, three dollars a copy: single numbers otherwise, one dollar each. The subscription for foreign countries is $5.20 a year.

CONTENTS

Announcements 211

Program, Thirty-Ninth Meeting, Convention of American Instructors of the Deaf, *Richard G. Brill*, Ed.D. 212

Educational Achievement of Deaf Children, *C. P. Goetzinger*, Ph.D., and *C. L. Rousey*, Ph.D. 221

An Historical Sketch of the Manual Alphabets, *Edward R. Abernathy*, Ph.D. 232

Changes in Administration — *Madison J. Lee*, 241, *Charles B. Grow*, 241, *Robert Baughman, Joseph R. Shinpaugh*, 241, *Joseph E. Healy* 241

Miscellaneous

The Assessment and Teaching of Aphasic Children at The Central Institute, *Frank R. Kleffner*, Ph.D. 242

AMERICAN ANNALS OF THE DEAF

Vol. 104 March, 1959 No. 2

Announcements

The 39th regular meeting of the Convention of American Instructors of the Deaf will be held at the Colorado School for the Deaf and Blind, Colorado Springs, Colorado, June 28–July 3, 1959.

Edward R. Abernathy, President
Sister Rose Gertrude, Secretary

Official Call for the Thirty-first Regular Meeting of The Conference of Executives of American Schools for the Deaf

The thirty-first regular meeting of the Conference of American Schools for the Deaf will be held at the Colorado School for the Deaf and the Blind, Colorado Springs, Colorado, on June 28 to July 3, 1959, for the purpose of conducting the necessary business, including reports of the officers and chairmen of standing committees, and the election of executive committee members, and such other business as may properly come before the meeting.

Marshall S. Hester, President
Hugo F. Schunhoff, Secretary

The Third World Congress of the Deaf will be held in Wiesbaden, Germany, August 22 to 26, 1959, in the Rhein-Main-Halle. For further information write to Organisations-Büro für den III. Weltkongress der Gehörlosen, Deutscher Gehorlosen-Bund, Gabelsbergerstrasse 2, Frankfurt am Main (Germany).

Program

of the

Thirty-Ninth Meeting

of the

Convention of American Instructors of the Deaf

Colorado School for the Deaf and the Blind

Colorado Springs, Colorado

JUNE 28 - JULY 3, 1959

RICHARD G. BRILL, Ed.D., *Chairman Program Committee*

Convention Theme

Today's Education Can Meet the Needs of the Deaf Child

Sunday, June 28

1:00-5:00 p.m.	General Registration
3:00 p.m.	Training meeting of all Section Leaders and Workshop Chairmen.....School Auditorium
8:00 p.m.	Opening General Session.....Gymnasium Edward R. Abernathy, Ph.D., President, Presiding Invocation: Reverend Homer E. Grace, All Souls Chapel for the Deaf, St. Marks Church, Denver, Colorado Address of Welcome: Mr. Roy M. Stelle, Superintendent, Colorado School Introduction of Governor: Member of Board of Trustees of the Colorado School for the Deaf and the Blind Greetings from the State of Colorado: Governor Stephen McNichol Greetings by Mayor of Colorado Springs Reports from International Congress at Manchester, England: Edward A. Abernathy, Ph.D., President of Convention; Miss Alyce Thomas, Representative of Hearing Teachers; Mr. W. T. Griffing, Representative of Deaf Teachers Remarks on Convention Program: Richard G. Brill, Ed.D., Program Chairman Announcements: Mr. Roy M. Stelle Reception: On the Campus

Monday, June 29

Reading

Gymnasium *Section Leader: Miss Frances Phillips*

9:00- 9:45 a.m. Keynote Speaker: Mildred Hoyt Bebell, Ed.D., University of Denver, "New Approaches in the Teaching of Reading"
10:00-11:30 a.m. Morning session of Reading workshops
1:15- 2:15 p.m. Afternoon session of Reading workshops
2:15- 2:45 p.m. Workshop participants and recorder formulate report
3:00- 3:45 p.m. Section meeting to summarize workshops

Reading Workshop Leaders

Mrs. Alyce Baldyga
Mrs. Stella Brightman
Mrs. Osie Brown
Miss Katherine Casey
Mrs. Daniel Dedrick
Mr. C. L. Gover
Mrs. Mabel Gulick
Miss Julie McDermott
Mr. F. McDowell
Mrs. Esther McGarry
Mr. Maurice Moriarty
Mr. Malcolm Norwood
Mr. Roy G. Parks
Miss Alyce Thomas
Mr. Andrew Vasnick
Mrs. Edna L. Wolf
Mrs. Adelle Wright
Mr. R. T. Youngers

Monday, June 29

Multiple Handicaps

School Auditorium *Section Leader: Miss Margaret S. Kent*

9:00- 9:45 a.m. Keynote Speakers: Powrie V. Doctor, Ph.D., Editor, *American Annals of the Deaf*, Gallaudet College, Washington, D.C., "Reporting of Multiple Handicaps to the Annals"
Milton Brutten, Ph.D., Director of Child Study Department, Pennsylvania School for the Deaf, Philadelphia, "Differential Diagnosis"
10:00-11:30 a.m. Panel Discussion
Moderator: June Miller, Ed.D., Educational Director, Department of Hearing and Speech, University of Kansas Medical Center, Kansas City
Panel: Milton Brutten, Ph.D., Director, Child Study Department, Pennsylvania School for the Deaf, Philadelphia
Mr. Daniel Burns, Head, Department for Deaf-Blind Children, Perkins School for the Blind, Watertown, Massachusetts
Powrie V. Doctor, Ph.D., Editor, *American Annals of the Deaf*, Gallaudet College, Washington, D.C.
Mr. Myron A. Leenhouts, Principal, California School for the Deaf, Berkeley
1:15- 2:15 p.m. Group Discussion
2:15- 2:45 p.m. Workshop participants and recorder formulate report
Deaf-Blind:
Leader—Mr. Daniel Burns, Perkins School
Recorder—Joseph Giangreco, Iowa School for the Deaf

Emotionally Disturbed and Deaf:
Leader—Milton Brutten, Ph.D., Pennsylvania School
Recorder—Mr. Ralph L. Hoag, Arizona School for the Deaf
Mentally Retarded and Deaf:
Leader—Mr. Myron A. Leenhouts, California School, Berkeley
Recorder—Mrs. Doris Hudson, Arizona School for the Deaf
Aphasic and Deaf:
Leader—Frank Kleffner, Ph.D., Central Institute for the Deaf
(See Research Section Workshop)

3:00- 3:45 p.m. Section meeting to summarize workshops
Bibliography provided by Central Index of Research on the Deaf, Stephen P. Quigley, Ph.D., Director, Gallaudet College

Monday, June 29

Health and Physical Education

Brown Hall *Section Leader: Mr. Lloyd Parks*

9:00- 9:45 a.m. Keynote Speaker: Mr. Frank R. Turk, Director of Practice Teaching in Physical Education and Wrestling Coach, Gallaudet College

10:00-11:30 a.m. and 1:15- 2:15 p.m. Workshop Sections
Coaches—Mr. Raymond Butler, Head Coach, Texas, Chairman
Two training films on Football and Basketball
Girls' Physical Education Teachers—Mrs. Mary Belle Coll, Kansas School, Chairman
Movie of Girls' Gym Exhibitions
Superintendents and Principals—Mr. Marvin Clatterbuck, Oregon School, Chairman

2:15- 2:45 p.m. Workshop participants and recorder formulate report

3:00- 3:45 p.m. Section meeting to summarize workshops

Monday, June 29

Research

Ritter Hall *Section Leader: Robert Frisina, Ph.D.*

9:00- 9:15 a.m. Introduction: D. Robert Frisina, Ph.D., Director, Hearing and Speech Center, Gallaudet College

9:15- 9:45 a.m. "Research in Speechreading; Some Relationships to Language Development and Implitions for the Classroom Teacher"
Edgar L. Lowell, Ph.D., Administrator, John Tracy Clinic, Los Angeles, California

9:45-10:15 a.m. Discussion Period, Dr. Lowell, Chairman

10:30-11:00 a.m. "Research in Speech for the Deaf; Implications for the Classroom Teacher"

Clarence V. Hudgins, Ph.D., Director of Research, The Clarke School for the Deaf, Northampton, Massachusetts

11:00-11:30 a.m. Discussion Period, Dr. Hudgins, Chairman

1:15- 1:45 p.m. "Research and Treatment of Aphasic Children; with Special Reference to Speech and Language Development and Implications for Schools and Classes for the Deaf"
Frank R. Kleffner, Ph.D., Associate Director, Division of Speech Correction and Pathology, Central Institute for the Deaf, St. Louis, Missouri

1:45- 2:15 p.m. Discussion Period, Dr. Kleffner, Chairman

2:30-3:00 p.m. "Research in Auditory Testing; Some Relationships to Language and Speech Development and Implications for the Classroom Teacher"
Frank X. Frueh, Ph.D., Audiologist, Indiana State School for the Deaf, Indianapolis, Indiana

3:00- 3:30 p.m. Discussion Period, Dr. Frueh, Chairman

Monday, June 29

11:45 a.m. Convention Picture

Monday, June 29

6:30 p.m. Day School Teachers' Dinner—
Section Leader: Miss Genevieve Drennen
Speaker: Mary Rose Costello, Ph.D., Henry Ford Hospital, Detroit

6:30 p.m. Little Paper Family Dinner—Open to the public
The L.P.F. Gridiron
Dr. Powrie V. Doctor
Dr. Leonard M. Elstad

Tuesday, June 30

Language

Gymnasium *Section Leader: Mr. Albert W. Douglas*

9:00- 9:45 a.m. Keynote Speakers:
Miss Lucy M. Moore, Michigan State College
Bernard Th.Tervoort, S.J., Ph.D., Instituut voor Doofstommen, St. Michielsgestel, The Netherlands

10:00-11:30 a.m. Morning session of Language workshops

1:15- 2:15 p.m. Afternoon session of Language workshops

2:15- 2:45 p.m. Workshop participants and recorder formulate report

3:00- 3:45 p.m. Section meeting to summarize workshops

Language Workshop Leaders

Miss Golda Caldwell
Mrs. June Grant
Miss Margaret Emswiler
Miss Audrey Hicks
Mrs. Frances Drake
Mrs. Margaret Clarke

Tuesday, June 30

Auditory Training

School Auditorium — *Section Leader: Mr. Thomas H. Poulos*

9:00- 9:45 a.m. Keynote speaker: Mary Rose Costello, Ph.D., Audiologist, Henry Ford Hospital, Detroit, "Realistic Goals in Auditory Training"

10:00-11:30 a.m. Morning session of Auditory Training workshops

1:15- 2:15 p.m. Afternoon session of Auditory Training workshops

2:15- 2:45 p.m. Workshop participants and recorders formulate report

3:00- 3:45 p.m. Section meeting to summarize workshops

Auditory Training Workshop Leaders

Miss Josephine Carr
Miss Genevieve Drennen
Mr. Maurice V. Moriarty
Miss Jane Pearce
Mrs. Dorothy Pickett
Miss Audrey Simmons

Tuesday, June 30

Vocational

Ritter Hall — *Section Leader: Mr. Howard Rahmlow*

9:00- 9:45 a.m. Keynote speaker: Dr. Boyce R. Williams, Consultant, Deaf and Hard of Hearing, Office of Vocational Rehabilitation, Department of Health, Education and Welfare, Washington, D.C., "How Today's Vocational Education Can Best Serve the Deaf"

10:00-11:30 a.m. Morning session of Vocational workshops

1:15- 2:15 p.m. Afternoon session of Vocational workshops

2:15- 2:45 p.m. Workshop participants and recorder formulate report

3:00- 3:45 p.m. Section meeting to summarize workshops

Vocational workshop topics:

1. Certification Criteria for Vocational Teachers of the Deaf
2. Offset Printing—A New Challenge and Production vs. Teaching in the Print Shop, Mr. Chester Dobson, Chairman
3. Broader Vocational Program for Girls

Tuesday, June 30

Brown Hall — Conference of Executives of American Schools for the Deaf (Meeting open to members only)

9:00-11:30 a.m. Business Meeting
Mr. Marshall S. Hester, President, presiding

1:00- 3:30 p.m. "A Report from the New York State Psychiatric Institute"
Franz J. Kallman, M.D., Principal Research Scientist
John D. Rainer, M.D., Consultant—and Senior Staff Members

Tuesday, June 30

Visual Education

School Auditorium — *Section Leader: Mr. Gilbert Delgado*

3:45- 4:00 p.m. Introductory Remarks, Mr. Gilbert Delgado
EDL Controlled Reader demonstration—Mr. Delgado

4:00- 4:15 p.m. Tach x Viewlex—Special Filmstrip, demonstration prepared by the New Mexico School for the Deaf, Mrs. Millicent Reynolds

4:15- 4:30 p.m. TDC Stero Project-or-view — Miss Janet McRoberts, California School, Berkeley

4:30- A—Slides of the Kansas School shown on the Gold E. Manumatic film and slide projector—Mr. John Gonzales, New Mexico School

B—Film or slides from Public School 47, New York City, shown on the RCA 16mm sound projector—Colorado School

C—Exhibit of visual teaching aids from several schools

D—Practice and instruction in the use of equipment demonstrated, and other, for anyone interested

Tuesday Evening, June 30

Chuck Wagon Dinner at Garden of the Gods
Entertainment by Koshare Indians

Wednesday, July 1

Speech

School Auditorium — *Section Leader: June Miller, Ed.D.*

9:00- 9:45 a.m. Keynote Speaker: S. Richard Silverman, Ph.D., Director, Central Institute for the Deaf, St. Louis

10:00-11:45 a.m. Morning session of Speech workshops

1:15- 2:15 p.m. Afternoon session of Speech workshops

2:15- 2:45 p.m. Workshop participants and recorder formulate report

3:00- 3:45 p.m. Section meeting to summarize workshops
Speech Workshop Leaders

Preschool and Kindergarten—Miss Elizabeth Titsworth
Primary—Miss Josephine Carr
Rotating Classes—Miss Jane Pearce
Intermediate Classes—Mrs. Mamie Reilly
Advanced Classes—Mrs. Mazine Langley
Speech for Hard of Hearing—Miss Lucy Moore

Wednesday, July 1

Curriculum Content

Gymnasium — *Section Leader: Mr. Harland J. Lewis*

9:00- 9:45 a.m. Keynote Speaker: Wallace Brandon, Ph.D., Gallaudet College, "Foreign Languages at the College Level"

10:00-11:45 a.m. Morning session of Curriculum Content workshops
1:15- 2:15 p.m. Afternoon session of Curriculum Content workshops
2:15- 2:45 p.m. Workshop participants and recorder formulate report
3:00- 3:45 p.m. Section meeting to summarize Curriculum Content workshops

Curriculum Content Workshop Leaders
Social Studies, Secondary Level—
Mr. Eldon Shipman
Mathematics, Intermediate Level—
Miss Susan Christian
Science, Secondary Level Mr. Joseph Giangreco

Wednesday, July 1

Deaf Teachers

Ritter Hall *Section Leader: Mr. Mervin Garretson*

9:00-10:30 a.m. Panel Discussion — Mr. Edward Scouten, Moderator
Participants—Mr. Lawrence Newman, Mr. George Propp, Mr. Harry Scofield, Mr. Grover Farquhar, Mr. W. T. Griffing, Mr. Fred Murphy
10:45-11:45 a.m. Morning session of Deaf Teachers workshops
1:15- 2:15 p.m. Afternoon session of Deaf Teachers workshops
2:15- 2:45 p.m. Workshop participants and recorder formulate report
3:00- 3:45 p.m. Section meeting to summarize workshops
Panel members will be Deaf Teacher Workshop Leaders

Wednesday, July 1

Brown Hall Conference of Executives of American Schools for the Deaf (meeting open to members of Conference only)
9:00-11:30 a.m. Panel—Administrative Problems in Residential Schools for the Deaf
Dr. Edmund B. Boatner, Moderator
Participants:
Mr. Stanley D. Roth, Mr. Archie F. Leard, Mr. Arthur S. Myklebust, Dr. Sam B. Craig, Mr. Kenneth Huff, Recorder
1:30- 3:30 p.m. Business Meeting
Mr. Marshall S. Hester, President, presiding
Report, *American Annals of the Deaf*, The Editor

Wednesday, July 1

Visual Education

School Auditorium *Section Leader: Mr. Gilbert Delgado*

3:45- 4:00 p.m. Reading Accelerator SRA-2B—Mr. Marvin Wollach, New Mexico School

4:00- 4:15 p.m. Keystone Tachistoscope—Mrs. Esther McGarry, California School, Riverside
4:15- 4:30 p.m. Little Theater — homemade — Story teller, Mrs. Margaret Floyd, New Mexico School
4:30- A—Films of the Bruce Street School, Newark, New Jersey
B—Films of the South Dakota School
C—Exhibit of visual teaching aids from several schools
D—Practice and instruction in the use of equipment demonstrated, and other, for anyone interested

Wednesday, July 1

8:00 p.m. Business Meeting
Guest Speaker: Mr. Everett Conover, "The Care and Feeding of Wives"

Thursday, July 2

Pre-School and Kindergarten

School Auditorium *Section Leader: Miss Elizabeth F. Titsworth*

9:00- 9:45 a.m.—Keynote Speaker: Mrs. Alathena Smith, Clinical Psychologist, John Tracy Clinic, Los Angeles, California
10:00-11:45 a.m. Morning session of Preschool and Kindergarten workshops
1:15- 2:15 p.m. Afternoon session of Preschool and Kindergarten workshops
2:15- 2:45 p.m. Workshop members and recorder formulate report
3:00- 3:45 p.m. Section meeting to summarize Preschool and Kindergarten workshops

Preschool and Kindergarten Workshop Leaders

Mrs. John S. Allen
Mrs. Ruth Hudgin
Miss Eloise Kennedy
June Miller, Ed.D.
Miss Grace Paxson

Thursday, July 2

Curriculum Content

Gymnasium *Section Leader: Mr. Robert Baughman*

9:00- 9:45 a.m. Keynote Speakers:
Social Studies—Mrs. Rachel Hall, Steele School, Colorado Springs
Little Hall of Science—Mr. H. Lynn Bloxom
10:00-11:45 a.m. Morning session of Curriculum Content workshops
1:15- 2:15 p.m. Afternoon session of Curriculum Content workshops
2:15- 2:45 p.m. Workshop participants and recorder formulate report
3:00- 3:45 p.m. Section meeting to summarize Curriculum Content workshops
Workshop meetings will be in following areas:

Social Studies —intermediate level
Mathematics —secondary level
Science —intermediate level

Thursday, July 2

Principals and Supervising Teachers

Brown Hall *Section Leader: Mr. Joe R. Shinpaugh*

9:00- 9:45 a.m.	Keynote speaker: Mr. C. Joseph Giangreco, Assistant Superintendent, Iowa School for the Deaf
10:00-11:45 a.m.	Morning session of Principals and Supervising Teachers workshops
1:15- 2:15 p.m.	Afternoon session of Principals and Supervising Teachers workshops
2:15- 2:45 p.m.	Workshop participants and recorder formulate report
3:00- 3:45 p.m.	Section meeting to summarize Principal and Supervising Teachers workshop

Thursday, July 2

Vocational Training

Ritter Hall *Section Leader: Mr. Howard Rahmlow*

9:00- 9:45 a.m.	Section Meeting: Report and Discussion of Proposals of Vocational Teacher Certification Criteria
10:00-11:45 a.m.	Morning session of Vocational workshops
1:15- 2:15 p.m.	Afternoon session of Vocational workshops
2:15- 2:45 p.m.	Workshop participants and recorder formulate reports
3:00- 3:45 p.m.	Section meeting to summarize Vocational Training workshops

Vocational workshop topics:

Occupational Possibilities—Understanding Vocational Rehabilitation Agencies—Mr. Uriel Jones, Chairman

Objectives and Benefits of Trade vs. Industrial Arts—Mr. G. Dewey Coats, Chairman

How to Promote More Functional Shop Language—Mr. Donald F. Wilkinson, Chairman

Thursday, July 2

Evening— Alumni Dinners

Gallaudet College

Arkansas Teacher Training Program

Kansas Teacher Training Program

Western Pennsylvania Teacher Training Program

Educational Achievement of Deaf Children

C. P. GOETZINGER, PH.D.

C. L. ROUSEY, PH.D.

The Department of Hearing and Speech
University of Kansas Medical Center
Kansas City, Kansas.

INTRODUCTION

The educational progress of children in schools for the deaf has been a major source of concern for educators ever since cognizance was taken of the fact that the congenitally deaf were educable. With the development of objective psychological scales in this country in the beginning of the century, it was not long until Pintner and Paterson (17) had devised a test battery more suitable for evaluating the intelligence of hypacusic children. Soon thereafter, these investigators conducted a survey of the educational status of children in schools for the deaf (probably the first objective educational assessment of the deaf in this country) using the Trabue Language Test. This instrument, which had been standardized on hearing children, was constructed on the principles of the Ebbinghaus completion method, and measured comprehension and composition.

Pintner and Paterson (18) administered this scale to 570 children in the Kentucky and Ohio Schools for the Deaf. Some of their findings are of interest in terms of the present study. They found, for example, first, that children who lost their hearing after ages four or five had a decided educational advantage over those who were born deaf; second, when severe deafness was acquired before the aforementioned ages, no educational advantage was observed in the subsequent test results; third, the majority of the deaf children lay between the second and the fourth grade educationally with only 6.4% attaining a level above the fourth grade; fourth, orally taught pupils advanced to a little above the fourth grade after 12 years of schooling, whereas the manually taught averaged a little above the third grade.

A follow-up study by Pintner (16) of 1,098 children in the Ohio, Indiana, Texas, and Kentucky schools employing different forms of the same test substantiated their previous findings.

Subsequently, the Reamer Survey (21), the National Research Council Survey (1), and more recent studies have provided evidence relative to the magnitude of the educational retardation of deaf children when compared to hearing norms.

The impact of the onset of severe deafness before about age four upon eventual educational accomplishment, as measured

by standardized tests, appears to be rather well-established in terms of the policies which are still imposed on most residential schools for the deaf. To be explicit, the age of school entrance as established by law for most state schools is between five and six years, and the usual pupil load per teacher varies from about 10 to 12. Although children who have suffered congenital or early acquired deafness may be expected as a general rule to show educational lag when compared to hearing children regardless of what steps are taken, nevertheless, the findings of Lane (12) in particular, at Central Institute, are an example of the reduction in achievement retardation which can be accomplished through preschool training and, it might be inferred, smaller classes. Recent psychological studies have emphasized the retardation of the hypacusic in reasoning and conceptualization. (5) (15) (23). Likewise, attention has been called to the higher incidence of other defects in deaf children as compared to children with normal hearing. While such information is extremely pertinent to diagnosis, educational planning and the eventual accomplishment of the hypacusic, nevertheless, it would appear in general, that the difficulty in acquiring language because of the inability to experience aurally by reason of severe early deafness is still the major barrier to a higher level of reasoning and concept formation.

The present study was undertaken therefore, first, to augment the considerable body of research already available pertaining to the educational achievement of severely deaf children, and second, with the thought in mind that the findings subsequently to be presented may represent the approximate maximum achievement of children who have suffered severe early deafness when the conditions of their education are such as will be described.

The specific questions for study were therefore:

(1) What is the general level of attainment on standardized achievement tests of congenitally deaf children and children with early, acquired severe deafness when the educational history of the group reveals an almost total absence of preschool training, and an almost total absence of consistent use of auditory stimulation through amplification, and who were educated in classes of 10 or more pupils during the period of their education?

(2) Are there any differences between the educational achievement of the congenitally deaf and those who acquired deafness from disease other than meningitis; between the congenitally deaf and the meningitic deaf; or between the two groups with acquired deafness when the subjects are matched relative to age, sex, I.Q., years spent in school, and as indicated in question one?

(3) What is the relationship between the Binet-Vocabulary scores and scores obtained on Paragraph Meaning, Vocabulary, Arithmetic Reasoning and Arithmetic Computation of the Standford Achievement Test for deaf children?
(4) What is the educational achievement of children who have attended school for 12 or more years under the conditions referred to in question one?
(5) Do children whose parents are deaf show greater educational progress than children with hearing parents?

The Subjects

The subjects, previously studied by the authors (3), were 101 deaf students between the ages of 14 and 21 years in the advanced department of a state residential school for the deaf. There were 52 males and 49 females. Sixty-one of the total were congenitally deaf. The remaining 40 subjects had suffered severe auditory impairment between the ages of one and three years. In 18 subjects the cause of deafness had been meningitis. All but three of the subjects had been educated exclusively in state residential schools for the deaf in this country. As a matter of record, 53 of the subjects had received their entire education in the state residential school at which the data were collected. The remainder had attended two or more state schools for the deaf during the course of their education, except as noted.

The school records concerning the familial history of auditory impairment for each of the subjects revealed that 27 had one or more deaf sisters or brothers, three had uncles who were hard of hearing, and 10 were the offspring of deaf parents. The remaining subjects had no history of deafness either on the maternal or paternal side. The average pure tone air conduction hearing loss through the speech range for the total groups was 93 db in the better ear. One of the criteria for hearing impairment was that no child should have a loss of less than 70 db in his better ear. In fact, only four subjects had losses of less than 85 db in the better ear. In all cases, severe auditory impairment which precluded the acquisition of speech was present at birth or had been acquired not later than the age of three. It might be added that one of us had tested these subjects both aurally and psychologically over a period of about seven years.

Only three of the subjects had had preschool training in a program for deaf children. Six had attended a regular public school kindergarten for about a year prior to their entrance into a school for the deaf.

The 53 subjects who had been educated exclusively at the school under study attended classes of 10 or more pupils during their entire education. Of the 48 subjects who had come

from other schools, 24 had attended the school of the study approximately 75% of their school years. As a consequence they were in classes of 10 or more pupils during a large portion of their education. No information for estimating the class sizes of the remaining 24 subjects during the period of their school attendance other than in the school of the study was available, except that in the majority of cases the schools from which they had come were known to have classes of ten as a general administrative procedure. It seems safe to assume that very few if any of the subjects had received a substantial part of their education in classes smaller than 10.

None of the subjects had had consistent auditory training during their school years. A few had been exposed to intermittent use of amplification in their beginning years.

Procedure

Each child had been given the Performance Adult Wechsler Intelligence Scale (Form II), the Binet-Vocabulary Test and other psychological tests during a three month period. Pure tone air conduction audiometric tests for frequencies 128 to 8,192 cps were also administered. Hearing test data by pure tone audiometry were available on a majority of the subjects over a period of seven years, and on some subjects over a period of 12 years. The psychological and audiometric tests had been completed approximately one week prior to the administering of the achievement test which was conducted by the school. For the purposes of this study only the subtests, Paragraph Meaning, Vocabulary, Arithmetic Reasoning, and Arithmetic Computation were employed.

The statistical treatment of the data involved the use of the sum of ranks and Mann-Whitney "mu" test to determine the significance of differences between groups. (22)

Results

In Table 1 are shown the mean and standard deviations for I.Q., C.A., Years in School, Age at School Entrance and the

TABLE 1

Primary Data for 60 Congenitally Deaf Adolescents and 41 Adolescents with Deafness Acquired not Later Than Age Three

	Mean	S.D.	Gr. Equiv.	Mean	S.D.	Gr. Equiv.
I.Q.	103.5	13.4		97.9	11.0	
C.A.	17.2*	1.9*		17.6*	2.0*	
Yrs. Sch.	10.5*	2.4*		11.2*	2.3*	
Age Entered	6.7*	1.3*		6.4*	1.4*	
P.M.	41.7	13.1	4.4	40.1	15.5	4.2
Voc.	39.7	12.1	4.2	41.2	16.1	4.3
A.R.	56.3	13.7	6.0	52.3	18.1	5.5
A.C.	58.5	13.6	6.5	55.9	15.6	6.0

Note * refers to years and months.

four sub-tests of the achievement battery of the 60 congenitally deaf subjects and the 41 subjects with acquired deafness. The grade equivalents for the mean equated scores of the achievement sub-tests are also presented.

As will be seen in the table, the congenitally deaf subjects excelled the subjects with acquired deafness in I.Q., Paragraph Meaning, Arithmetic Reasoning, and Arithmetic Computation, even though they were slightly younger, had spent less time in school, and were slightly older on entering school.

In order to determine whether or not the observed differences between the two groups were significant the data were analyzed by means of the sum of ranks test (22). The resulting z's were non-significant with the exception of the difference in I.Q. Here, the 5.6 superiority of the congenitally deaf was significant between the 5% and 1% level of confidence for a two tailed test. As is usually the case with children who have suffered severe early deafness, their lowest achievement scores were in paragraph meaning and vocabulary which reflect the language problem. A surprising finding in terms of past research (14) was the very small difference (not statistically significant) between arithmetic reasoning and arithmetic computation for both groups.

In a previous study (3) of the same subjects with the Wechsler Adult Performance Test (Form 2) no differences in psychometric profile were found between the congenitally deaf and those with acquired deafness, irrespective of whether deafness had occurred from meningitis or some other disease. The point was made, however, that the data precluded a critical differentiation of the congenitally deaf on the basis of endogenous and exogenous etiologies. In the present study it was decided to investigate achievement test scores for the classifications of congenitally deaf, of acquired deafness from meningitis and of acquired deafness from disease other than meningitis when the subjects were matched with reference to chronological age, sex, years spent in school and intelligence quotient. The following groups were therefore studied.

(a) Eight congenitally deaf females vs. eight meningitically deaf females
(b) Eight females with acquired deafness other than meningitis vs. eight meningitically deaf females
(c) Five congenitally deaf females vs. five females with acquired deafness other than meningitis
(d) Ten males and females with acquired deafness other than meningitis vs. ten males and females meningitically deaf
(e) Ten congenitally deaf males vs. ten males with acquired deafness other than meningitis
(f) Eight males with acquired deafness (non-meningitic) vs. eight females of the same classification
(g) Sixteen congenitally deaf males vs. 16 congenitally deaf females

To test the significance of the differences between scores the Mann-Whitney "mu" test was employed. In short, none of the differences which were found in the above seven groupings was statistically significant.

In addition to the achievement test data and psychological tests heretofore discussed, the Binet-Vocabulary had been administered to 91 of the subjects under a slightly modified procedure. The subjects were required to write out the definitions. In instances of obscurity of meaning because of language expression difficulties, the subjects were asked to clarify the meaning of a word through the language of signs and finger spelling. The reason for this aspect of the study was to determine the relationship between the intelligence test vocabulary and achievement when the former was administered as described. Since the Binet-Vocabulary would tend to measure achievement rather than mental ability when employed with deaf children, a high correlation was expected. Partial correlations with chronological age and years spent in school statistically controlled were therefore computed between the Binet scores and the four achievement sub-tests. The four partial correlations thus obtained were: Paragraph Meaning .78, Vocabulary .82, Arithmetic Reasoning .66, and Arithmetic Computation .65. The mean number of words which were correct on the Binet-Vocabulary was 8.9, corresponding to a nine year mental level for hearing children. Although the predictive values of these correlations are less than 50 per cent, nevertheless, it would appear that the Binet-Vocabulary, administered as described, affords a fair approximation of the achievement of deaf children.

Since scores for the Binet-Vocabulary were available for the matched groups previously discussed differences in the means were examined for significance. None of the "mu's" was significant.

As a next step in this investigation, 22 subjects of the total group were selected whose intelligence quotients on the Wechsler ranged from 85 to 115, and who had attended school for 12 or more years. None of these children had had preschool training nor consistent auditory training during the course of their training. All had hearing losses in excess of 85 db in the better ear, and had received their schooling in classes of 10 or more pupils. The means, standard deviations, and ranges for I.Q., C.A. Age at School Entrance, Years Spent in School, and scores on the four achievement subtests are reported in Table II. The grade equivalents for the achievement tests are also included in the table.

It will be observed from the table that this sample of 22 subjects whose mean I.Q. was 102.1, who had attended school for 13 years-five months, and whose mean entrance age into school was 5 years-six months attained a grade equivalent of about five years (4.9 and 5.1) in Paragraph Meaning and

TABLE 2

Primary Data for 22 Subjects Who Had Attended School for 12 or More Years.

	Mean	S.D.	Range	Gr. Equiv.
I.Q.	102.1	10.4	115–85	
C.A.	19.1*	1.1*	20.8–17.1*	
Yrs. Sch.	13.5*	1.0*	15.0–12.0*	
Age Entered	5.6*	.2*	6.9– 5.2*	
P.M.	47.6	9.4	67–29	4.9
Voc.	48.5	9.5	71–31	5.1
A.R.	61.3	10.3	81–36	7.0
A.C.	64.0	11.9	82–43	7.6

Note * refers to years and months.

Vocabulary, and a grade equivalent of slightly better than seven years (7.0 and 7.6) in Arithmetic Reasoning and Arithmetic Computation. Although a comparison between the Pintner and Paterson (18) results with the Trabue Language scale and these findings, particularly with reference to Paragraph Meaning and Vocabulary, may not be appropriate in a strict sense, nevertheless, one might speculate that there is a trend to higher achievement. In view of the fact that the particular state school at which the data were collected possessed a highly coordinated and well organized curriculum from the primary through the advanced departments, and an exceptionally capable and well trained staff, the findings could conceivably represent the approximate, maximum level of accomplishment of children with I.Q.'s between 85 and 115 who had suffered early severe deafness, who attended classes of ten or more pupils during the period of their education, and who lacked preschool training and consistent use of amplification for auditory stimulation.

Getz (2) has pointed out that emotional adjustment is an important variable with respect to the educational achievement of deaf children. A majority of the 22 subjects had been given a battery of personality tests which included the Rorschach, Murray's Thematic Apperception, and the Bender Visual Motor Gestalt Designs to determine whether the usual scoring and interpretation standards might be applicable to deaf adolescents. The conclusion was reached that adequacy of personality function could be reasonably well estimated from the battery (9). Of the 24 adolescents who had received the battery (most of whom are included in the group of 22 subjects) only four were rated as below average in personality adequacy by the tests. It might be assumed, therefore, that the group of 22 subjects were on the whole of average adjustment.

As a final step in this investigation eight children whose parents were deaf were matched with eight children with hearing parents on the basis of I.Q., C.A., Years spent in

School and Age at School Entrance. The primary data for this comparison are shown in Table 3.

It is clear from the table that none of the differences in educational achievement between the two groups was statistically significant with the exception of Arithmetic Computation. Here, the difference in favor of the subjects with deaf parents reached the five per cent level of confidence. A trend was also noted with regard to Arithmetic Reasoning. No such trend was apparent in the results for Paragraph Meaning and Vocabulary. It would appear that an earlier use of language through the medium of signs did not enhance later educational achievement in paragraph meaning and vocabulary as measured here. One might postulate that later adverse

TABLE 3

A comparison of the Achievement Scores of Eight Children with Deaf Parents and Eight Children with Hearing Parents Matched with Reference to I.Q., C.A., Age at School Entrance and Years Spent in School.

	Deaf Parents		Hearing Parents		
	Mean	S.D.	Mean	S.D.	Mann-Whitney Mu
I.Q.	106.0	12.0	106.0	8.2	Non-Significant
C.A.	17.3*	2.0*	17.3*	2.3*	"
Yrs. Sch.	11.8*	2.5*	11.8*	2.2*	"
Age Entr.	5.6*	1.0*	5.4*	1.4*	"
P.M.	43.7	14.6	42.9	10.8	"
Voc.	41.4	15.1	41.6	12.1	"
A.R.	65.0	16.1	55.7	14.5	"
A.C.	66.5	14.1	55.9	11.9	5% level

Note * refers to years and months

factors such as restricted language experiences in the home could nullify any early gains, if there were such. Again, attendance at a residential school during the greater part of the year could conceivably operate as a leveling device. In any event, not enough information was available on either group of subjects to warrant more than reporting the results.

Discussion

The positive influence of preschool training on the eventual educational attainment of children who are deaf as demonstrated by Lane (12) has already been mentioned in this paper. In like manner Hudgins and Numbers (8) have shown that severely deaf children manifest marked gain in speech perception when auditory stimulation with high quality equipment has been consistent. A few state residential schools are now conducting preschool training programs for the children of families living within commuting distance of the school. Since obviously, the majority of families with a deaf child cannot

live within commuting distance of a state school, attempts have been made by some school administrators to reach preschool deaf children through Parent-Child Institutes which are held for a week or two each year. With regard to amplification in state schools, there is an increasing use of high powered group and individual hearing aids in many schools throughout the country.

One particularly significant area for research which has not received a great deal of attention in the literature, although all educators of the deaf are aware of it, pertains to the influence of class size upon educational outcome. It would appear that there is no experimental evidence bearing directly on this problem. One may infer, however, from the published accounts of the academic achievement of deaf children in a private residential school (14) that the pupil load per teacher is of the utmost importance. Residential state schools in general must adhere to a policy of about ten children per teacher. Although it seems unlikely that state supported schools in the near future would be allowed to adjust their pupil load per teacher to equal the class size of some private residential schools, nevertheless, a modification in terms of the proposal subsequently to be discussed could reasonably meet with public and legislative approval, if experimental evidence were available to buttress the contention. In short, the above referred to modification would consist of class sizes of five children per teacher throughout the primary department, eight in the intermediate and about twelve in the advanced grades. We are aware of the research findings relative to the educational growth of deaf children that the gap between the norms for the hearing and the deaf increases in the later years of schooling as the material becomes more abstract. (14) This is particularly so in areas which involve language such as reading comprehension. In the present study the progressive deviation from the norms during the last years in school was pronounced in paragraph meaning and vocabulary. Perhaps, as noted previously, there can never be complete compensation for the lack of auditory experiences with respect to the average child who has suffered early severe deafness. But a reduced pupil load per teacher at the lower levels could assist in the development of better habit patterns of study, afford the teacher a better opportunity to observe and to influence the emotional growth of her charges, and effect an environment for faster and broader learning which might reasonably be expected to carry over into the students' advanced grades.

A seemingly feasible approach to the above would be the establishment of an experimental school for deaf children where pupil load per teacher, preschool training practices, techniques for developing language and abstract concepts, auditory training procedures, means of evaluating techniques

of diagnosis and of therapy relating to emotional problems could be studied. A new trend in the education of the deaf child might thus be envisioned.

SUMMARY

(1) No differences in educational achievement were found between children who suffered severe deafness not later than age three and congenitally deaf children. The 5.6 superiority of the congenitally deaf in intelligence quotient was significant between the 5% and 1% level of confidence.

(2) No differences in educational achievement were found between the congenitally deaf and the meningitic deaf, between the congenitally deaf and the subjects with acquired deafness from disease other than meningitis, or between the two groups with acquired deafness when the subjects were matched with reference to C.A., I.Q., sex, and years spent in school.

(3) The partial correlations with chronological age and years spent in school held constant between the Binet-Vocabulary and the four sub-tests of the achievement battery were: P.M.-.78, Voc.-.82, A.R.-.66, and A.C.-.65. A Binet-Vocabulary score, therefore, as administered, affords a quick estimate of a deaf adolescent's educational level.

(4) The mean achievement scores for 22 deaf adolescents without preschool training, who had been educated in classes of ten or more pupils, whose I.Q.'s ranged between 85 and 115, and who had little or no auditory training may represent the approximate maximum accomplishment of deaf children under conditions as enumerated regardless of a well coordinated and organized curriculum, and well-qualified teachers.

(5) No differences in educational achievement were found between children whose parents were deaf and children whose parents were hearing, except in A.C., where the former excelled.

(6) Suggestions were made relative to future research for residential state schools for the deaf.

BIBLIOGRAPHY

1. Day, H., Fusfeld, I., and Pintner, R. A Survey of American Schools for the Deaf. Washington, D. C.: The National Research Council, 1928
2. Getz, S. Environment and the Deaf Child. California School for the Deaf, Berkeley, California, 1955
3. Goetzinger, C. P., and Rousey, C. L. A Study of the Wechsler Performance Scale (Form II) and the Knox Cube Test with Deaf Adolescents. *American Annals of the Deaf*, 102, 1957, 388-398
4. Heider, F., and Heider, G. Studies in the Psychology of the Deaf. Psychological Monographs, 12, 1940, 1–153
5. Heider, F., and Heider, G. Studies in the Psychology of the Deaf. Psychological Monographs, 13, 1941, 1–158

6. Hopkins, L. A., "How Does Auditory Training over a Period of Years Affect Auditory Acuity?" *Proceedings* of the Thirty-Seventh Meeting of the Convention of American Instructors of the Deaf. Document 99, (U. S. Government Printing Office) 1956, 172–178
7. Hudgins, C. V., "Building a Consistent Auditory Training Program Throughout the School." *Proceedings* of the Thirty-Seventh Meeting of the Convention of American Instructors of the Deaf. Document 99, (U. S. Government Printing Office) 1956, 166–177
8. Hudgins, C. V., and Numbers, M. E., "Speech Perception in Present Day Education for Deaf Children." *Volta Review*, 50, 1948, 449–456
9. Inman, J., and Robinson, E. "The Use of the Rorschach, the Thematic Apperception, and the Bender Visual Motor Gestalt Tests with the Congenitally Deaf. (Unpublished)
10. Johnson, E. H., "The Effects of Academic Level on Scores from the Chicago Non-Verbal Examination for Primary Pupils." *American Annals of the Deaf*, 92, 1947, 227–233
11. Johnson, E. H. "The Ability of Pupils in a School for the Deaf to Understand Various Methods of Communication–II." *American Annals of the Deaf*, 93, 1948, 258–314
12. Lane, H. S., "Influence of Nursery School Education on School Achievement." *Volta Review*, 44, 1942, 677–680
13. Lane, H. S., "The Relationship of Mental Test Scores to Educational Achievement." Transactions *Oralism and Auralism*, Dayton, Ohio, March 14–15, 1947. (St. Louis: Laryngoscope Press), 22–26
14. Lane, H. S., "The Rate of Educational Progress of the Deaf Child. "Transactions *Oralism and Auralism* Columbus, Ohio, February 18–19, 1949. (St. Louis: Laryngoscope Press), 7–13
15. Larr, A. L., "Perceptual and Conceptual Abilities of Residential School Deaf Children." *Journal of the International Council for Exceptional Children*, 23, 1956, 63
16. Pintner, R., "The Measurement of Language Ability and Language Progress of Deaf Children," *Volta Review*, 20, 1918, 755–764
17. Pintner, R. and Paterson, D. A Scale of Performance. D. Appelton and Company, New York, 1917
18. Pintner, R. and Paterson, D., "A Measure of the Language Ability of Deaf Children." *American Annals of the Deaf*, 62, 1917, 211–239
19. Prall, J., "Lipreading and Hearing Aids Combine for Better Comprehension," *Volta Review*, 59, 1957, 64–65
20. Pugh, G. S., "Summaries from 'Appraisal of Silent Reading Abilities of Acoustically Handicapped Children.'" *American Annals of the Deaf*, 91, 1946, 331–349
21. Reamer, J. C. "Mental and Psychological Measurements of the Deaf." Psychological Monographs, No. 132. Princeton, N. J. The Psychological Review Company, 1921
22. Siegal, S. "Non-Parametric Statistics for the Behavioral Sciences." McGraw-Hill Book Company: New York, 1956
23. Templin, M. C. "The Development of Reasoning in Children with Normal and Defective Hearing." Minneapolis, The University of Minnesota Press, 1950
24. Wechsler, D. "The Wechsler-Bellevue Intelligence Scale, (Form II)." New York: The Psychological Corporation, 1946

An Historical Sketch of the Manual Alphabets

EDWARD R. ABERNATHY, PH.D., SUPT.
Ohio School for the Deaf, Columbus, Ohio

Manual communication takes two general forms which should be distinguished: one is by signs or manual motions to designate words or phrases; the other is the use of a manual alphabet for representation on the hand of letters of the alphabet and numerals. Signs do not depend on written language and indeed can be used between those who do not understand the written or spoken language of the other. The American Indians with many dialects used signs to communicate between tribes. Crude signs or gestures are of primitive origin and may well have preceded vocalization. As distinguished from these, the conventionalized signs of the deaf did not become established in use until the latter half of the 18th century and hence came after manual alphabets were in use as teaching devices for the deaf. While some of the conventionalized signs of the deaf employ a manual letter in combination with a sign of exactness (such as "W" on the lips for water as distinguished from "V" on the lips for vinegar) generally signs are not dependent on written language. There are numerous experiences among the deaf of communicating through signs with foreign deaf persons where neither individual understood the written language of the other. By contrast, finger spelling is the spelling by individual letters, and, hence identified with a specific language.

Finger spelling or dactylology, is of uncertain but ancient origin. Best (1) states: "Such people as the Egyptians, Hebrews, Greeks, Romans, and others, seem to have made use of a finger notation or symbolization. Persons in enforced silence, notably monks of the Middle Ages, and to a less extent in later times, often resorted to some such practice. Illustrations of the manual alphabet go back fairly far in the Christian era, most of the single-handed variety. Late in the seventh century the Venerable Bede . . . showed himself to be acquainted with the device, and refers (in *De Loquela per Gestum Digitorum*) to three different forms which were in existence before his time. In Latin Bibles of the tenth century pictures of dactylology are to be seen. Systems somewhat on the order of those now in use appear in the sixteenth century. In 1546 there appeared a brief work on the subject, with examples, called *Chiromantia*. It seems to have been Italy where these things largely emanated."

In a voluminous work on the dactylology of the ancients, Barrois (2) formulated a Prehellenic one-hand alphabet based on his highly fanciful interpretation of the position of the

fingers in ancient statues, paintings and similar works. Much of his interpretation is based on imaginary Greek equivalents. He derives the letter U from the extended index and little fingers, so in a bronze of Selenus from Herculaneum he imagines this to be Upsilon, standing for "hypnos" (sleep) and "hypar" (a vision); the statue of Apollo Belvedere shows the same formation which he interprets as "hybris" (wanton force); to be consistent he again interprets this formation as "hybris" in a fresco polychrome of St. Savin, of the 11th century. In the four armed god of ancient India, Vishnu, he sees two hands each with thumb to fourth finger as forming Mu or M (for the Greek "mater"); an open hand as Pi or P (for the Greek "pater"). Similarly, he interprets as P the outstretched open hand of a figure of Pertinax, conveniently giving the initial of his name. By such Barrois derives an alphabet. He regards dactylology as the basis of Chinese writing, and in an ancient Phoenician papyrus he likens the characters to formations by the fingers. These absurdities are compounded with interpretations in Greek of Assyrian, Egyptian, ancient Mexican figures and continuing to an illustration in a French publication of 1686. While his imaginative alphabet is not to be credited, his work does raise a question as to the meanings intended by stylized but unusual finger formations found in ancient statues, vase paintings, bas-reliefs and the like. Barrois includes a plate of a 9th century bas-relief, "The Power of Charlemagne" wherein there are three arches, in each of which a hand is depicted giving some sort of finger spelling. Barrois observes (3) that some of the tombs or cenotaphs in the most ancient churches in Paris show effigies using the sign language.

A. Farrar (4) observes that "The earliest finger alphabets extant appear to have been founded on manual signs for numbers, as may be seen in the first chapter of Bede's *De Temporum Ratione* where a "manual speech" is described. There is evidence that these manual alphabets were in common use in the Middle Ages for purposes of secret or silent intercourse."

It appears certain that some form of manual communication dating back over a thousand years came down through the Middle Ages, quite likely through religious orders under vows of silence and by those who desired secret or silent communication. It does not appear that any manual alphabet was used in instructing the deaf in that period. Farrar (5) notes that Jerome Cardan (1501-1576), an Italian mathematician and physician, urged the importance of teaching the deaf to read and write explaining ideas by the use of signs. Farrar (6) also states that there is no evidence of the use of a manual alphabet by the first regular instructor of the deaf, Pedro Ponce de Leon (1520?–1584), though apparently, he did use signs. Pedro Ponce de Leon, scion of the noble house of Arcos, is said to have been a native of Valladolid, Spain. Educated

at the University of Salamanca, he joined the Benedictines and spent most of his life in their monastery at Oña. Hodgson (7) comments that "possibly the monk remote in his monastery at Oña never heard of this technique (of a manual alphabet) but was on the other hand used to conventionalized signs for certain purposes within the community."

In 1579 Rossellio (8), in his *Thesaurus Artificiosae Memoriae* showed one-hand forms for the alphabet. For a majority of the letters he gave three forms presumably for three different alphabets, but for S, T, and V he gave two forms, and for X only one. No forms were given for J, K, R, U, W, Y, or Z. He also pictured a common device for manually indicating letters and figures by pointing to various parts of the body. We find both devices at later dates and, indeed, a combination of these (by pointing with the right hand to designated parts of the left hand). Pointing to parts of the body for letters was grotesque and awkward, so gradually this gave way to more practical manual alphabet. Some of Rossellio's rather crudely drawn one-hand forms show similarity with present day forms for B, F, I, L, M, O, P, Q, and X.

The great contribution to the one-hand alphabet is that of Juan Pablo Bonet (d. 1629?). His *Reduccion de las Letras y arte para Enseñar a Ablar los Mudos* (simplification of the letters and the art of teaching deaf-mutes to speak) was published in Madrid in 1620. This is the earliest work extant on the education of the deaf. In Book II, Chapter III, he gives the *"Abecedario Demonstrativo"* (9), beautifully engraved reproductions of a one-hand alphabet. With some minor modifications this Spanish alphabet is the one widely used today in the United States and continental Europe. By comparison many of the letters are identical, a few similar and only D and R show marked differences. There is no J, as I was used instead, V and U are the same, and there is no K or W in Spanish. In the historical sketch given by Farrar (10) it is stated that of Bonet little is known. He was born in Jaca in Aragon in the latter part of the 16th century and filled various offices of state including that of secretary to the Constable of Castile. Farrar continues: "He was a man of the world rather than a cloistered teacher like Ponce de Leon, and, as a matter of fact, there is scarcely any evidence that teaching the deaf was at any time his vocation. Bonet, in the preface to his work, states that he was moved to write it from gratitude to the family of his master the Constable of Castile, who had a brother, Luis de Velasco, who lost his hearing at the age of two, and was made Marquis of Fresno by Philip IV in 1628. But he nowhere says anything of having educated this nobleman; on the contrary, we learn from other sources that this was done by Manuel Ramirez de Carrion, who was also tutor and secretary to another deaf-mute, the Marquis of Priego. Ramirez de Carrion, in a work published in 1629 on another subject, himself states that he 'was occupied with

the education of Luis de Velasco for four years, and though broken by such long intervals, that it hardly left three full years, I taught him to read, write, speak, and converse with such success, that he felt no other deficiency than that of hearing'. From his position in the Constable's household, Bonet must have been acquainted with Ramirez de Carrion; it is therefore the more remarkable that neither refers to the other in any way. All that can certainly be said on the point is that, whether or not Bonet had any share in Luis de Velasco's education, he has in his book described the method pursued."

Commenting on this, Harvey Peet (11), said "Bonet does not claim the merit of originating the widely used manual alphabet. . . . We are even left in doubt whether the alphabet given by himself which, as we have seen, differs essentially from those known to have been used by the ancients, was his own invention, or adopted by him, ready-made."

Incidentally, Bonet recommended that the alphabet be used to converse with a deaf person and not by other signs which would be less beneficial and the deaf person should reply by word of mouth. Bonet advocated the manual alphabet as a device in teaching speech.

Bonet (12), cited an older method of using parts of the body for letters, saying ". . . in antiquity it was considered the right thing to do to know how to use the demonstrations of the hands and other parts of the body in order to signify letters and figures. According to what Juan Bautista Porta (13), writes in his book *De Furtivis literarum,* bringing many examples they employed by hánd and also demonstrations of many parts of the body that were touched to signify the letters, intending the

A. Auris—las orejas (ears)
B. Barba—la barba (chin)
C. Caput—la cabeça (head)
D. Dentes—los dientes (teeth)
E. Epar—el higado (liver)
F. Frontem—la frente (forehead)
G. Gutar—la garganta (throat)
H. Humeros—los ombros (shoulders)
I. Ilia—la hijada (cavity—small of the back)
L. Linguam—la lengua (tongue)
M. Manu—la mano (hand)
N. Nasum—la nariz (nose)
O. Oculos—los ojos (eyes)
P. Palatum—el paladar (palate)
Q. Quinquedigitos—los cinco dedos (the five fingers)
R. Renes—los riñones (kidneys)
S. Supercilia—sobre las cejas (eyebrows)
T. Tempora—el espacio de las sienes (temples)
V. Ventrem—la barriga (stomach)

(End of quotation)

Bonet notes that K, X, Y, and Z were not used in the Latin language.

The Spanish alphabet was introduced into France by Jacob Rodriques Pereire (1715-1780), the first important teacher of the deaf in that country (14). Born at Berlanga in Spanish Estremadura, he belonged to a family of Spanish Jews who were driven through persecution to Portugal and then to Bordeaux, settling there in 1741. Pereire had a deaf sister whom he undertook to teach. Later—he instructed other deaf pupils. In 1749 he brought one of his pupils before the French Academy of Sciences in Paris. A commission appointed by the Academy to report on the value of Pereire's methods commented on the use of the manual alphabet. Subsequently, Pereire achieved even wider recognition. He kept his methods secret but through his most outstanding pupil, Saboureaux de Fontenay who also became a teacher of the deaf, we can gain some knowledge of Pereire's methods. The most distinctive feature was the use of Spanish manual alphabet which he enlarged and augmented to conform to French pronunciation and orthography. He used it as a means of teaching speech (as Bonet advocated).

Up until this time education of the deaf had been for the privileged few. Charles-Michel de l'Epée (1712-1789) was the founder of the first French school for the deaf irrespective of their social condition. (15). He undertook the instruction of two deaf sisters in 1760. Later the school he founded and contributed to from his own private income, became in 1791 the National Institution at Paris. The Abbé de l'Epée was acquainted with the system employed by Pereire and used the manual alphabet in instruction (chiefly as a vehicle for the development of methodical signs rather than speech). Roch-Ambroise-Cucurron Sicard (1742-1822) became the head of the school in Paris after the death of the Abbé de l'Epée. The Abbé Sicard continued the use of the one-hand alphabet in conjunction with methodical signs. The manual alphabet employed by Sicard (16), was, with only slight differences, the same as that used in the United States today. It was brought to this country by Thomas Hopkins Gallaudet (1787-1851). In 1815, through a subscription of funds Gallaudet was sent to Europe for the purpose of qualifying himself to become an instructor of the deaf. He first went to London but due to a narrow monopolizing spirit he was rebuffed at the London Asylum. He next went to Edinburgh but the institution there was under obligation not to instruct teachers for a period of years. He had met Sicard in London and had been invited to Paris. So Gallaudet turned to Paris and the French system of instruction. He returned to the United States in August, 1816 bringing with him Laurent Clerc, a deaf teacher from Paris who had been, incidentally, an outstanding pupil under Abbé Sicard. Thus were signs and the Spanish manual

alphabet brought to America. The American School for the Deaf, as it is now called, was opened at Hartford, Connecticut, on April 15, 1817—the first permanent school for the deaf in the United States. Dr. Gallaudet was the first head of this school and served in that capacity for fourteen years.

In Great Britain manual communication developed into a two-hand alphabet and remains as such today. After Bede, the earliest reference by any English writer to a manual alphabet was by John Bulwer, a physician. In 1644 he published in London, the *Chirologia or the Natural Language of the Hand Composed of the Speaking Motions, and Discoursing Gestures thereof whereunto is added Chironomia or the Art of Manuall Retoricke.* Therein he relates how a deaf man, one Master Babington of Burntwood could converse with his wife at night by means of an alphabet contrived on the joints of his fingers. In this work Bulwer shows six manual alphabets (J and U are omitted) which are mixtures of one and two-hand forms but showing little relationship to the two-hand alphabet that eventually became established in Great Britain.

Dr. George Dalgarno (1626?-1687) of Scotland was the first English writer to advocate a manual alphabet for the deaf. In 1680 he published *Didascalocophus, or the Deaf and Dumb Man's Tutor.* Although he mentioned and rejected a two-hand alphabet somewhat similiar to the one commonly used in Great Britain today, he advocated an alphabet he devised. This latter, had letter points assigned to one-hand which were designated by touching with the thumb or finger of the other. The vowels were on the ends of the fingers (A on the tip of the thumb, E on the tip of the index finger, etc.) which is characteristic of the present two-hand alphabet. But unlike the present day alphabet the remaining letters were located by pointing to the phalanges of the fingers and the palm of the hand.

Critchley (17) cites the alphabets advocated by La Fin and Wilkins. In 1692 La Fin (18), one-time secretary to Cardinal Richelieu, proposed an alphabet incorporating the old device of pointing to the various parts of the body (reminiscent of the system referred to by Bonet quoting Porta and also shown by Rossellio) combined with Dalgarno's device of the vowels on the tips of the five fingers. Similar to the mnemonic arrangement reported by Porta, La Fin used B–brow; C–cheek; D–deaf ear; F–forehead; G–gullet; H–hair, etc. As this alphabet was associated with the English language only, La Fin developed another for use in Latin.

The other citation by Critchley to Bishop Wilkins (19) of Chester who, in 1694 advocated a manual alphabet similar to that of Dalgarno, using the tips of the fingers for the five vowels; the middle parts for the first five consonants; the bottom parts for the next five; the spaces between the fingers the next four; T– one finger laid on the side of the hand; V-

two fingers; W– three fingers; X– the little finger crossed; Y– the wrist; Z– the middle part of the hand.

The two-hand manual alphabet that eventually came to prevail in Great Britain is first found in a rare booklet, *Digiti Lingua* (20) published in London in 1698, which the author says is: "The most compendious, copious, facile and secret way of silent Converse ever yet discovered Shewing how any two persons may be capable in half an hour's time, to discourse together by their Fingers only, as well in the dark as the light." There is no indication that the alphabet devised would be of use to the deaf although the anonymous author says of himself: "By a person who has conversed no other wise in above nine Years." He mentioned another alphabet in use that employed, A-arm, E-elbow, M-mouth, N-nose, with most of the consonants about the head. He regarded his own system as more facile. The illustration given shows the vowels on the tips of the fingers as Dalgarno employed them and which are still used today. The consonants shown in *Digiti Lingua* are, with some modifications, very similar to those in the present day two-hand British alphabet. Farrar (21) notes that the alphabet in *Digiti Lingua* is also figured in Defoe's *Life of Duncan Campbell* and that de l'Epée speaks of a two-hand alphabet as being well-known to French schoolboys in his time. In connection with this latter comment, it is interesting to note that hearing children in the United States frequently used a manual alphabet among themselves but it is usually the two-handed English alphabet (except they do not employ the tips of the fingers for the vowels). This is curious, in as much as our schools for the deaf and the adult deaf in United States have always used the one-hand alphabet. Apparently, whatever may have been the origin, the two-hand alphabet among school children is passed down through succeeding generations of children.

Farrar (21) states: "Many other finger alphabets, chiefly syllabic or phonetic—of the former, the French Recoing's in the early part of the last century, and of the latter, Grosselin's at a later time may be instanced—were formed for the deaf but . . . none ever acquired any permanent vogue . . ."

In resumé, it may be noted that finger spelling was employed during the Middle Ages without any indication of use by the deaf. The early instruction of the deaf was by speech, then came the manual alphabet as an adjunct by some (but not used at all by many). Bonet intended the manual alphabet to be shown as a device for teaching speech to the deaf. Not until de l'Epée did the manual alphabet in conjunction with signs become a single method in France, with speech only as an auxiliary if used at all. At the same time elsewhere in Europe speech alone was the principal method. In Great Britain, Dalgarno in advocating his alphabet discarded the teaching of speech to the deaf (which was then being done

by Wallis and Holder). Eventually oral instruction came to prevail in Great Britain. In the United States the first instruction by Gallaudet was manual; later oral schools developed.

Today, particularly among the adult deaf, we find, with some modifications in each, the 1620 Spanish one-hand alphabet figured by Bonet in use in the United States and continental Europe, while in the British Isles the two-hand alphabet shown in the 1698 *Digiti Lingua* is employed. Although the one-hand alphabet is faster, the two-hand is somewhat more pronounced; each is firmly established in the respective areas of use.

ACKNOWLEDGMENTS

The writer is indebted to Gallaudet College for the use of several of the references, especially the Rossellio and the rare *Digiti Lingua* which are part of the fine Baker Collection in the Edward Minor Gallaudet Library. Also appreciation is expressed to the New York School for the Deaf, White Plains, New York, for the generous loan of a fine copy of Bonet. Likewise to the Volta Bureau, Washington, D.C., for the use of the work by Barrios.

REFERENCES

1. Best, Harry, Deafness and the Deaf in the United States, Macmillan, New York, 1943, p. 518
2. Barrois, J., *Dactylologie et Langage Primitif*, Paris, 1850, Planche III
3. Barrois, J., (cited above), p. 23
4. Farrar, A., *Arnold on the Education of the Deaf*, College of Teachers of the Deaf, London, 1923 (2nd Edition), p. 39
5. Farrar, A., (cited above), p. 6
6. Farrar, A., (cited above), p. 9
7. Hodgson, Kenneth W., *The Deaf and Their Problems*, New York, 1954, p. 83
8. Rossellio, R.P.F. Cosma, *Thesaurus Artificiosae Memoriae*, Venice, 1579
9. Bonet, Juan Pablo, *Reduccion de las Letras y arte para Ensenar a Ablar los Mudos*, Madrid, 1620, (Plates between 130 and 131)
10. Farrar, A., (cited above), p. 9
11. Peet, Harvey P., "Analysis of Bonet's Treatise on the Art of Teaching the Dumb to Speak", *American Annals of Deaf*, July, 1851, Vol. III, No. 4, p. 204.
12. Bonet, Juan Pablo, (cited above), pp. 128-129
13. Porta, J. B., *De Furtivis Literarum Notis Vulgo de Ziferis*, Neapoli, 1563
14. Historical account of Pereire based on Farrar, A., (cited above), pp. 32–37
15. Historical account of the Abbé de l'Epée based on Farrar, A., (cited above), pp. 42–47
16. Chart in the Appendix to: Sicard, Roch-Ambroise, *Cours D'Instruction d'un Sourd-Muet de Naissance*, 2nd Edition, Paris, 1803
17. Critchley, Macdonald, *The Language of Gesture*, Edward Arnold & Co., London, 1939, pp. 32–35
18. LaFin, *Sermo Mirabilis, or the Silent Language*, London, 1692

19. Wilkins, J., "Mercury or the Secret and Swift Messenger" from the collected *Mathematical and Philosophical Works*, Vol. II, London, 1802
20. (Anonymous) *Digiti Lingua*, London, 1698
21. Farrar, A., (cited above) p. 40

Changes in Administration

KENTUCKY

Dr. Madison J. Lee, superintendent of the Kentucky School for the Deaf, will retire on June 30th. Dr. Lee began his career as a teacher of the deaf in 1911. He received his training for this special teaching at Gallaudet College. In 1924 Dr. Lee was appointed principal of the Kentucky School, and in 1928 was elected superintendent.

Charles B. Grow has been elected superintendent of the Kentucky School for the Deaf where he will succeed Dr. Madison J. Lee who will retire on June 30th. Mr. Grow was graduated from Westminster College in Fulton, Missouri, and was trained to teach the deaf at Gallaudet College. He taught at The Kendall School, the Kentucky School, the Georgia School, and the Rochester School, and returned to Danville in 1928. He has served as principal of the vocational department since 1938.

Robert Baughman has been appointed Principal of the Vocational Department of the Kentucky School for the Deaf. He was trained to teach the deaf at Gallaudet College and has been a member of the staff of the Kentucky School for a number of years.

VIRGINIA

Joseph R. Shinpaugh, assistant superintendent of the American School for the Deaf, has been named superintendent of the Virginia School for the Deaf and the Blind. Mr. Shinpaugh served the Virginia School as principal of the deaf department from 1946 to 1957. He received his B.A. degree from Hendrix College, Conway, Arkansas, and his M.A. degree in education from Columbia University. He was trained for the teaching of the deaf at Gallaudet College. Mr. Shinpaugh succeeds Joseph E. Healy who has retired.

Joseph E. Healy, superintendent of the Virginia School for the Deaf and the Blind, recently submitted his resignation after serving the Virginia School for 19 years.

MISCELLANEOUS

Summer Course

"THE ASSESSMENT AND TEACHING OF APHASIC CHILDREN"

Frank R. Kleffner, Ph.D.

Division of Speech Correction and Pathology
Central Institute for the Deaf

June 22 through July 31, 1959

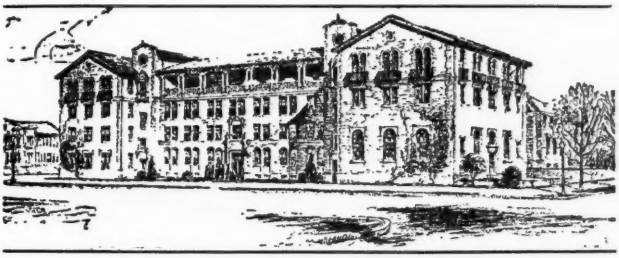
The course presents in detail the "CID-McGinnis method" for teaching aphasic children. These procedures have been developed and used over the past 30 years at Central Institute for the teaching of speech and language to aphasic children and to children with severe linguistic deficiencies not primarily the result of hearing loss or mental retardation. There will be lectures, demonstrations, and opportunities to observe and participate in the teaching of children at the Institute. Demonstration classes will be in session throughout the entire course. The children attending the demonstration classes will be selected to represent the various types of manifestations of aphasia, various age groups and levels of progress.

Six credits from the Graduate School of Washington University will be given.

For information or application please write to

Dr. Frank R. Kleffner
Central Institute for the Deaf
818 S. Kingshighway
St. Louis 10, Missouri

THE Language Outline prepared by the members of the faculty at Central Institute for the Deaf, St. Louis, Mo., has been reprinted for the fourth time since it was originally published in the AMERICAN ANNALS OF THE DEAF in September, 1950. Copies may be obtained for fifty cents. Orders may be sent to the AMERICAN ANNALS OF THE DEAF, Gallaudet College, Washington 2, D. C.



Central Institute for the Deaf

FOUNDED BY DR. MAX A. GOLDSTEIN

ORAL SCHOOL for deaf children — Day and Residential — Preschool to High School.

SPEECH CORRECTION—Classes for children with aphasia and other defects of speech.

Modern dormitories and equipment

INSTRUCTION and CLINICS for hearing assessment, deafness prevention, auditory training, lipreading, speech defects, including aphasia, cleft palate, laryngectomy, stuttering, articulatory defects, voice disorders—children and adults.

TEACHERS COLLEGE—affiliated with Washington University—leads to B.S. and M.A. degrees and Ph.D. research degree—outstanding opportunities for practice.

MODERN LABORATORIES FOR RESEARCH IN SPEECH AND HEARING

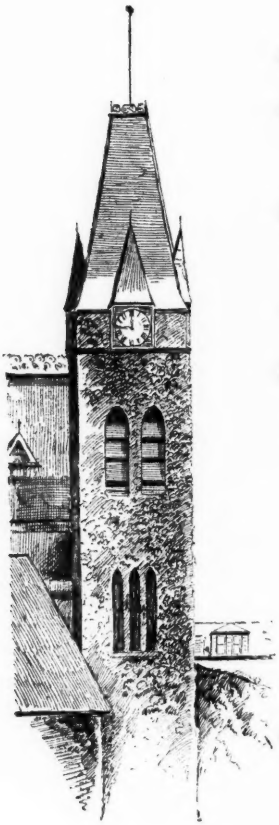
S. RICHARD SILVERMAN, Ph.D., Director

HELEN S. LANE, Ph.D., Principal

For further information address the Principal

818 S. KINGSHIGHWAY ST. LOUIS 10, MISSOURI

GALLAUDET COLLEGE



- For students whose loss of hearing makes it difficult for them to attend a college for students who can hear
- Four year course leading to the B.A. and B.S. degrees
- Two year course leading to the degrees of Associate in Arts or Associate in Applied Science
- Preparatory Department Last year in senior high school

GRADUATE DEPARTMENT OF EDUCATION

- For graduate students with normal hearing who are preparing to teach the deaf or to serve in administrative positions in schools for the deaf
  One year course or four summer sessions leading to the degree of Master of Science in Education
  One year course leading to the Professional Diploma in Administration and Supervision in Schools for the Deaf
- For counselors who wish a deeper understanding of the deaf and their problems
  Four-week orientation course

THE KENDALL SCHOOL

- Preschool
- Elementary and Secondary

Accreditation

Gallaudet College is accredited by the Middle States Association of Colleges and Secondary Schools

For further information, write to The President, Gallaudet College, Washington 2, D. C.

"Boy with Bunny Ears"

LEARN TO HEAR! At the LUTHERAN SCHOOL

Mill Neck, Long Island, N. Y.

And what a pleasure it is to be able to hear sound that is clear, distinct and NATURAL as it is on the MELODY MASTER (IDEAL) Auditory Training Unit Model T-1 (shown here).

In this non-sectarian school, the students must learn what comes naturally to children who can hear — the mechanics of speech. Training starts with developing the tongue and cheek muscles. The use of MELODY MASTER Auditory Training Equipment speeds auricular and academic training until they can be introduced to the regular school system.

There is IDEAL Equipment for home or any size group. Write for demonstration.

Developed and Manufactured by

MELODY MASTER MANUFACTURING COMPANY
2149-2151 West Roscoe St.
Chicago 18, Illinois **Phone LAkeview 5-5559**

OTO-, RHINO-, LARYNGOLOGY

A comprehensive monthly abstracting publication of Excerpta Medica covering the world's medical literature in the widest sense. The material relating to the ear is classified under: Ear (external, middle ear, labyrinth capsule, internal ear); neurology in relation to oto-rhino-laryngology; hearing; hearing tests; hearing aids; audiometry; electro-acoustics; deafness; education of the deaf; social aspects; intracranial complications; endoscopy; allergy.

430 pages, containing approximately 2300 abstracts a year

PRICE: $15.00 a year

EXCERPTA MEDICA FOUNDATION
NEW YORK ACADEMY OF MEDICINE BUILDING,
2 East 103rd Street, New York 29, N. Y.

NEBRASKA SCHOOL FOR THE DEAF
3223 North 45 Street
Omaha, Nebraska

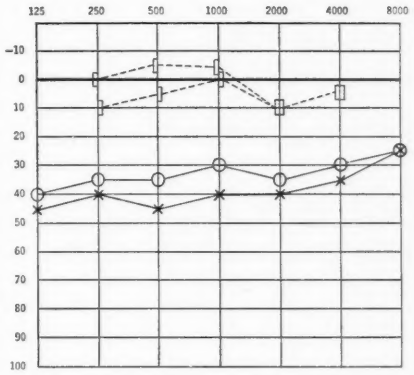
Positions open in September, 1959

Primary Supervisor with M.A., $5628 to $7680
Pimary and Advanced Teachers with B.A., $4056 to $6000
Speech Teacher, $4140 to $6072

Additional salary allowance for 16 hours and 24 hours in special training from accredited training centers.

Which type of Hearing Aid is best for your patient?

If this were your patient's audiogram, which type of hearing aid would you recommend? It is taken from the case history of a 32-year-old bookkeeper whose hearing loss was diagnosed, at age 19, as otosclerosis, with little or no perceptive component. In consultation with his doctor, the patient decided against surgical intervention.



This report is but one of many typical cases described in a new book, prepared especially for the medical profession by the Hearing Aid Division of Zenith Radio Corporation.

Clinical Findings: Ave. loss, R: 33 db, L: 42 db, B.B.A.: 33 db, SRT: 35 db, MCL: 55 db, TD: 100 db. Discrimination: L: 92%, R: 94%.

Prognosis: Patient should adapt readily to moderate gain hearing aid, air conduction type.

Recommendations: Any of these five Zenith Hearing Aids: Zenith "Citation" or "Challenger" Eyeglass Hearing Aid. At-the-ear Zenith "Diplomat" with L-1 earphone, or "Ambassador." Moderate gain conventional Zenith Hearing Aid —"Crusader" model in "M" tone setting.

Now Ready for Doctors . . . a valuable reference book designed to help you recommend the right type of hearing aid for your patients. Besides the actual typical case history outlined above, Zenith's new book, "Which Type of Hearing Aid for Your Patient," describes many other cases, and lists the appropriate Zenith Hearing Aid. Also contains a complete description of all types of Zenith Hearing Aids and their uses. For your free copy, write to: Zenith Radio Corporation, Hearing Aid Division, 5801 Dickens Avenue, Dept. 54P, Chicago 39, Ill.

ZENITH

"LIVING SOUND"
HEARING AIDS

IDAHO STATE SCHOOL Installs Four Rooms

MELODY MASTER The IDEAL Auditory Training Equipment

PHOTO: GOODING, IDA., LEADER

Class using one of the newly-purchased Melody Master multiple hearing aids. Watching Mrs. LaPearl Wright, teacher, are J. M. Trittenbach, president of Melody Master, and Miss Orpha D. Gordon of Boise, hearing aid consultant.

Each of the four rooms is equipped with the famous T-1 Auditory Training Unit combining radio, 3-speed phono, with non-reversible crystal cartridge, and microphone speech circuit that overrides the average record by 10 db. Four microphones are shared by eight children in addition to a movable boom ceiling microphone. Each child "listens" to his own voice as well as the voice of the others. The high fidelity low impedance dynamic headphones are binaurally adjusted for greatest listening comfort. A chest type microphone for the teacher affords full freedom to move about the room, and to use her hands while before the class or at the blackboard. The children have the use of this modern equipment throughout the school day.

The new light rail with its concealed wiring may be moved from room to room.

Educators know that much of what people learn is acquired through the sense of hearing. Constant use of the clear, crisp, NATURAL sound found in MELODY MASTER, speeds auricular and academic training because listening as well as teaching becomes a pleasure.

NOW IN USE IN 46 COUNTRIES

Unequalled for finding and developing residual hearing, where all other equipment has failed. Widely used in all areas of speech correction, voice development and improvement, teaching of foreign languages, etc.

SEE and LISTEN or bring in any acoustically handicapped person for a test!

Developed and manufactured by

MELODY MASTER MANUFACTURING CO.

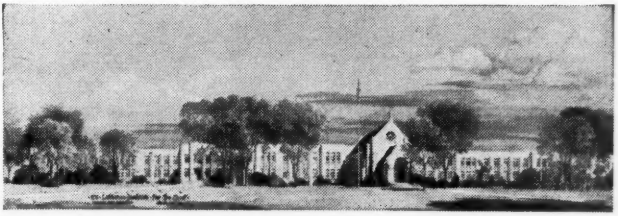
2149-2151 West Roscoe St., Chicago 18, Illinois

Phone LAkeview 5-5559

MELODY MASTER is featured on "QUEEN FOR A DAY" Radio and TV programs.

Lutheran Institute for the Deaf

Founded 1873



A PROTESTANT ORAL HOME-SCHOOL FOR DEAF AND HARD OF HEARING CHILDREN FROM THE AGE OF THREE—NURSERY THROUGH EIGHTH GRADE.

ALL BUILDINGS NEW, MODERN, AND FIREPROOF, HAVING BEAUTIFUL HOME-LIKE APPOINTMENTS.

Twenty-Acre Campus within the City of Detroit with Wooded Park and Ample Playground Facilities.

SMALL CLASSES — QUALIFIED TEACHERS — MODERN METHODS, CLASSROOMS and APPLIANCES. Individual and Group Hearing Aids, Visual Aids and Television.

HORSEBACK-RIDING, SWIMMING, TOBAGGANING, COMPETITIVE SPORTS WITH HEARING GROUPS, SCOUTING, and other recreational features.

Pupils enrolled from all parts of the U.S. and Canada. — NOT RESTRICTED TO LUTHERANS. — All parents desiring for their children a thorough elementary education together with Christian guidance in a home-like environment should write the Director for further information.

John A. Klein, Director, 6861 Nevada Ave., Detroit 34, Michigan

grason-stadler company

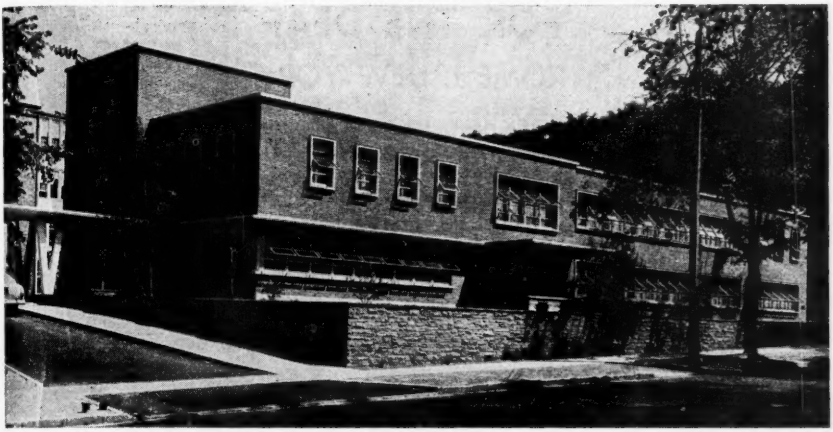
auditory training

The Model 280-A

A new instrument incorporating traditional Grason-Stadler quality construction and featuring compression amplification. It is designed to offer the utmost in simplicity of operation, portability and low cost. In addition to a monitor loudspeaker six outlets can be connected simultaneously, each with its own volume control.

---

grason-stadler company • 15 winthrop street • west concord • mass.



SYRACUSE UNIVERSITY

announces the opening of its Summer Residence School for 1959.

THE SCHOOL IS FOR

hard of hearing and deaf children. They are provided with a rehabilitation program including auditory training, lipreading, speech and language activities, and, where desirable, the selection and evaluation of hearing aids.

children with articulatory difficulties. These children are given training to correct distorted, substituted and omitted sounds.

children who stutter. Their training helps them speak with less effort and strain, and aids them in making the necessary emotional adjustments toward speech experiences.

children with cleft-palate speech. Instruction is given to improve their voice quality, and to make their pronunciation more distinct and intelligible.

COST OF THE SCHOOL

for the full term is $375.00 per child. This amount includes instruction, testing and continuous diagnosis, health services, recreation, supervision, and board and room. Bed linen and blankets are furnished by the School. Towels, clothing and personal laundry are provided by the child. Spending money should be limited to $10.00 for the entire period. It should cover all incidental expenses and is supervised by the Staff in the interest of health and general morale.

FOR INFORMATION, WRITE TO

DR. LOUIS M. DiCARLO, *Executive Director*
Syracuse University
Gordon D. Hoople Hearing and Speech Center
805 South Crouse Avenue
Syracuse 10, New York

Est. 1875

THE CENTRAL NEW YORK SCHOOL FOR THE DEAF

ROME 1, NEW YORK

Oral education for the deaf: Residential and Day School—co-ed, ages 3–20, Nursery, Kindergarten, Grades I–VIII, High School 1–4, Academic-Vocational. 70 Boys, 60 Girls. This Public-Private School provides speech and speech reading and auricular program, combining residential-day school and home environment plus religious emphasis program, to develop deaf pupils to become "all He or She is Capable of Being."

Free State Appointment Scholarships to Residents

Out of State Room, Board and Tuition $3,000 per Year

The Central New York School for the Deaf, as its name implies, is located in the very heart of New York State. It is situated in the City of Rome—"The Christmas City," "The Copper City," "Winter Wonderland," and a place where "there is time for living."

The program for the School is oral. The children are well behaved, normal, intelligent and the atmosphere of the school is friendly and home-like.

We also take this means of acquainting teachers of the deaf with our salary schedule, of which we are proud and, candidly, we hope that some more good teachers in the profession may decide they would like to come to Rome and teach at THE CENTRAL NEW YORK SCHOOL FOR THE DEAF, as vacancies occur and teachers retire.

SALARY SCHEDULE

	B Schedule	A Schedule
1.	$4700	$5000
2.	4800	5100
3.	4900	5200
4.	5100	5400
5.	5300	5600
6.	5500	5800
7.	5700	6000
8.	5900	6200

All increments beyond step 8 are on merit basis. Promotional.

maximum 6800 maximum 7200

In addition noon luncheon is furnished.

PRIOR TEACHING EXPERIENCE MAY BE FULLY RECOGNIZED

The American Flag was first flown in the face of an enemy on August 3, 1777, at the siege of Fort Stanwix, Rome, New York. (Information service of the Rome, N. Y., Chamber of Commerce.)

For further information, please write:

Fred L. Sparks, Jr., Superintendent

THE CENTRAL NEW YORK SCHOOL FOR THE DEAF

Rome 1, New York

ambco Binaural and Monaural Portable Hearing Amplifiers

FOR TESTING AND TRAINING THE AURALLY HANDICAPPED

- **Fully Transistorized**
- **Lightweight — Compact**

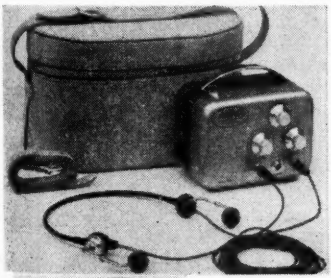
Ambco Binaural and Monaural amplifiers assure "balanced" output, less distortion, greater fidelity, "Lifetime" construction and economical operation.

This compact, Auditory Trainer Model 900 is battery operated and needs no master amplifier unit. Send for free literature.

TTB

(TRANSISTOR TRUE BINAURAL)

This binaural transistor trainer is especially suitable for integrated classroom auditory training. Teacher speaks in normal tone. Unit has two amplifiers, two microphones, two volume controls and choice of two earphones on double headband.



▲ Model 951-B Ambco "HAT" with Featherweight Headset.
◀ Alternate 951-C Standard Headset

HAT

(HEARING AMPLIFIER TRANSISTORIZED)

This monaural amplifier is a fully transistorized desk type, portable hearing aid. Each unit contains a built-in microphone with individually controlled output to each ear, fed from separate volume controls. The tone control offers a choice of bass or treble operation.

Mail coupon today.

AMBCO, INC.
1222 W. Washington Blvd., Los Angeles 7, Calif.

Please send free literature on _____

NAME _____

ADDRESS _____

CITY _____ ZONE ____ STATE ____
C

ambco, inc.
QUALITY AUDITORY EQUIPMENT
1222 West Washington Blvd. Los Angeles 7, Calif.

THE

1959 AMERICAN ANNALS

OF THE DEAF

•

catalogue of reprints on the Education and Welfare of the Deaf has been published. Copies may be obtained, free of charge, by writing to the

Editor

AMERICAN ANNALS OF THE DEAF

Gallaudet College

Washington 2, D. C.

CAMP LAUGHTON

Grahamsville, New York

Summer Camping for the Deaf and Hard of Hearing Child

Boating on our private lake

Camp Laughton is dedicated to the physical development and personality growth of each camper. Emphasis is placed on training to work and play successfully with others. Small groups directed by trained personnel provide each child with the opportunity to acquire unique experiences as a basis for language and speech growth.

Offering:

Speech, Lipreading and Auricular training
All athletic activities
Private lake and swimming pool
Individual swimming instruction
Cultural and social program
Dancing, Dramatics
Campcraft, Hiking, Cookouts

★ ★ ★

For information please write:

CAMP LAUGHTON

2264 CRESTON AVENUE, NEW YORK 53, N. Y.

NEW! WARREN "WALK AWAY"—W-1

A COMBINATION FREE FIELD AUDITORY TRAINING UNIT AND A WEARABLE HEARING AID

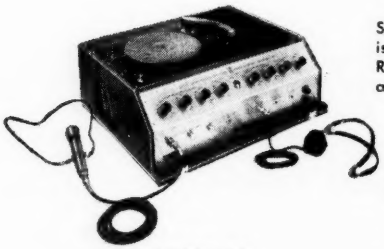
Over five years in development, the new WARREN model W-1 sets completely new standards of HIGHER POWER OUTPUT with EXTREMELY LOW DISTORTION. The PENETRATION, DENSITY and CONFIGURATION OF SPEECH of the WARREN W-1 is unparalled in a wearable hearing aid so small.

The WARREN W-1 uses FIVE TRANSITORS in a revolutionary new stabilized, low distortion circuit. The W-1 is easily capable of driving a pair of miniature receivers to their full undistorted output.

WARREN
"WALK-AWAY" MODEL W-1

A specially developed LINEAR VOLUME CONTROL adjusts the output level smoothly, with NO PEAKS, NO SURGES and NO INTERNAL NOISE. The W-1 is powered by self-contained, long life MERCURY CELLS, which are a standard type, easily replaced when exhausted. A three position switch selects either of TWO MAGNETIC CHANNELS (described below) or a regular microphone input.

Provisions are made for connecting either SPECIAL MINIATURE receivers, when the W-1 is used as a wearable hearing aid—or WARREN DYNAMIC HEADPHONES when used as an AUDITORY TRAINING UNIT.



WARREN MODEL T-2
Custom Built Professional Model

ANNOUNCING THE NEW WARREN "FREE FIELD" MAGNETIC AUDITORY TRAINING SYSTEM

The engineers who first made AUDITORY TRAINING OF THE DEAF a perfected reality with the development of GATED COMPRESSION AMPLIFICATION, have now expanded that system for use with the new MODEL W-1 WEARABLE AUDITORY TRAINING UNIT.

Now—The student is completely freed of his desk, of interconnecting cables, control boxes, etc. He can literally "WALK AWAY" to any part of the classroom without missing a single syllable of the training program. THE WARREN MODEL W-1 with either miniature receivers or WARREN DYNAMIC HEADPHONES plugged-in, is the only equipment the student needs.

The rest of the system consists of the well known WARREN MODEL T-2 GATED COMPRESSION AMPLIFIER, to which is added a NEW MODEL CL-1 CHANALATOR. This combination feeds a MAGNETIC LOOP in the classroom thus enabling ANY NUMBER OF STUDENTS to receive the training program. Any number of classrooms can be set up with no interference from adjacent classroom channels.

The MODEL W-1 also has switch positions for a common channel such as an auditorium, gymnasium or other group meeting place.

The new WARREN "FREE FIELD" MAGNETIC AUDITORY TRAINING SYSTEM is certain to revolutionize the field because it's many advantages MAKE THE TEACHING JOB EASIER —THE LEARNING FASTER. We, or our representatives, will gladly acquaint you with full details on this "YEARS AHEAD" equipment.

Jay L. Warren, inc.
Medical Electronics Designed for Better Hearing
1247-49 W. BELMONT AVE • CHICAGO 13, ILL.

The Newest Model in Our Complete Line

MAICO

HEARING GLASSES

Maico: the world's foremost manufacturer of quality hearing aids, audiometers, and auditory training equipment.

For information, see Maico dealers in principal cities or write:

MAICO ELECTRONICS, INC.

Room 104P **21 No. 3rd St., Minneapolis, Minn.**

WANTED

HOUSEMOTHER—For August, 1959, or earlier to take charge of girls' dormitory. 75 girls age 4–20. Staff of 6 counsellors.

*

Live in dormitory—private room and bath, and meals $35.00 per month. Salary open (not less than $4,800 per year) eleven weeks off in summer. Sick leave. Retirement plan. Social Security. Excellent facilities. Very best climate.

*

Qualifications—Not less than 5 years working with deaf children. Age 30–45. High school graduation. Use sign language and finger spelling. Normal hearing. Good health.

For additional information write to:

Superintendent
New Mexico School for the Deaf
1060 Cerrillos Road
Santa Fe, New Mexico

Visual Aid Materials Co.

LIP READING SETS
SPEECH AUDIOMETRY SETS

Clear, colorful pictures on plastic coated cards, arranged in file boxes.

"THE CALEN-BOARD"

Perpetual calendar—teaches time concepts. Room to write under each day.

MAGNETIC CHALK BOARDS

Large, (2' x 3') blackboard and bulletin board. Comes with 20 magnets.

For further information write:

VISUAL AID MATERIALS CO.
P. O. Box 66065
Los Angeles 66, Calif.

PRIMARY Supervising Teacher at The Central New York School for the Deaf, Rome, N. Y. Salary open.

The Central New York School for the Deaf, Rome, New York, announces nursery and primary teaching vacancies and the establishment of the position of Primary Supervising Teacher. Applicants invited. Salary open, for trained teachers of the deaf. Please contact: Fred L. Sparks, Jr., Superintendent, Rome, New York.

WANTED IN SEPTEMBER. Two teachers trained in the education of the deaf, by well-equipped private day school. Screened enrollment; small and graded classes. Wonderful location; comparable salaries. Please write: The Tucker-Maxon Oral School, 2860 S. E. Holgate Blvd., Portland 2, Oregon.

WANTED FOR SEPTEMBER, 1959

TEACHER OF SPEECH AND LIPREADING

to

Intermediate and Advanced Deaf and Hard-of-Hearing Children

Six 50 minute periods daily

Excellent Salary

Bachelor's Degree and Training to Teach the Deaf Required

39 weeks school year

Direct Inquiries

to

SUPERINTENDENT

NEW MEXICO SCHOOL FOR THE DEAF

1060 Cerrillos Road, Santa Fe, New Mexico

Membership

THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF

Information concerning membership in the Convention of American Instructors of the Deaf may be obtained from the Treasurer of the Convention, Thomas Dillon, New Mexico School for the Deaf, Santa Fe, New Mexico. Annual membership dues are $2.00. All teachers of the deaf in the United States and Canada are eligible for membership. Members of the Convention receive a copy of the printed *Proceedings* of the Convention of American Instructors of the Deaf. Those desiring subscriptions to the *American Annals of the Deaf* should write to the Editor, Gallaudet College, Washington 2, D. C. The yearly subscription rate is $4.00.

THE 39th REGULAR MEETING

of the

CONVENTION OF AMERICAN INSTRUCTORS
OF THE DEAF

will be held at the

COLORADO SCHOOL
FOR THE DEAF AND BLIND

COLORADO SPRINGS, COLORADO

JUNE 28–JULY 3, 1959

•

PLAN TO SPEND YOUR VACATION
IN THE ROCKY MOUNTAINS

•

Requests for reservations should be made to

ROY M. STELLE, SUPT.
Colorado School for the Deaf and the Blind
Colorado Springs, Colorado

Back Issues of the Annals Wanted

• • •

We have several orders for back issues of the *American Annals of the Deaf* which we are unable to fill because the supply of some numbers has been exhausted. We need copies of the following back numbers. The *Annals* will pay the express charges to anyone sending in the following back issues, or any back issues.

• • •

October, 1847
All copies for 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1868, 1869
October, 1870
April, 1892
January, 1895
April, 1895
January, 1906
September, 1906
September, 1907
January, 1908
May, 1909
September, 1909
November, 1909
May, 1910
May, 1912
September, 1915
January, 1953
September, 1953
September, 1954
September, 1955
March, 1956
January, 1957
September, 1957
November, 1957
January, 1958
March, 1958

The Conference of Executives of American Schools for the Deaf

FOUNDED 1868

STANDING COMMITTEES

PARENT EDUCATION

Marshall S. Hester, *Chairman*.....New Mexico School for the Deaf, Santa Fe, N. Mex.
Edmund B. Boatner.....American School for the Deaf, West Hartford, Conn.
Leonard M. Elstad.....Gallaudet College, Washington, D. C.
Hugo F. Schunhoff.....West Virginia School for the Deaf, Romney, W. Va.
Ben R. Hoffmeyer.....North Carolina School for the Deaf, Morganton, N. C.
Lloyd A. Ambrosen.....Maryland School for the Deaf, Frederick, Md.
Robert F. Frisina.....Gallaudet College, Washington, D. C.
Editor, *American Annals of the Deaf*

AMERICAN ANNALS OF THE DEAF

Marshall S. Hester, *Chairman*.....New Mexico School for the Deaf, Santa Fe, N. Mex.
Edward R. Abernathy.....Ohio School for the Deaf, Columbus, Ohio
Leonard M. Elstad.....Gallaudet College, Washington, D. C.
Edmund B. Boatner.....American School for the Deaf, West Hartford, Conn.
Sam B. Craig.....Western Pennsylvania School for the Deaf, Pittsburgh, Pa.
James H. Galloway.....Rochester School for the Deaf, Rochester, N. Y.
William J. McClure.....Indiana School for the Deaf, Indianapolis, Ind.
Hugo Schunhoff.....West Virginia School for the Deaf, Romney, W. Va.
Ben R. Hoffmeyer.....North Carolina School for the Deaf, Morganton, N. C.
Editor, *American Annals of the Deaf*

Editorial Staff 1847-1958

EDITORS

Laurence Rae, M.A.....1847–1854
Samuel Porter, M.A.....1855–1861
Lewellyn Pratt, M.A.....1868–1870
Edward Allen Fay, Ph.D., Sc.D., LL.D.....1870–1920
Irving S. Rosfeld, M.A.....1920–1943
Ignatius Bjorlee, M.A., LL.D., L.H.D.....1943–1944
Leonard M. Elstad, M.A., LL.D.....1945–1948
Powrie Vaux Doctor, Ph.D.....1948–

ASSOCIATE EDITORS

Leonard M. Elstad, M.A., LL.D.....1948–1956
William C. Stokoe, Jr., Ph.D.....1956–1957

ASSISTANT EDITORS

Allen Crawshaw Fay, M.A.....1914
Irving S. Rosfeld, M.A.....1917–1918
Powrie Vaux Doctor, Ph.D.....1940–1948
Elizabeth Peet, M.A., Ped.D.....1942–1945

The Conference of Executives of American Schools for the Deaf

FOUNDED 1868

STANDING COMMITTEES

ENDOWMENTS

William J. McClure, *Chairman*.....Indiana School for the Deaf, Indianapolis, Ind.
Bruce Siders.....Michigan School for the Deaf, Flint, Mich.
Leonard M. Elstad.....Gallaudet College, Washington, D. C.
Sam B. Craig.....Western Pennsylvania School for the Deaf, Pittsburgh, Pa.

LEGISLATION

Leonard M. Elstad, *Chairman*.....Gallaudet College, Washington, D. C.
Lloyd E. Berg.....Iowa School for the Deaf, Council Bluffs, Iowa
Robert S. Brown.....Mississippi School for the Deaf, Jackson, Miss.
Lloyd A. Ambrosen.....Maryland School for the Deaf, Frederick, Md.
John M. Wallace.....Florida State School, St. Augustine, Fla.

PROGRAM

Ben E. Hoffmeyer, *Chairman*.....North Carolina School for the Deaf, Morganton, N. C.
George Pratt.....Clarke School for the Deaf, Northampton, Mass.
Richard G. Brill.....California School for the Deaf, Riverside, Calif.
Edward Reay.....Idaho School for the Deaf, Gooding, Idaho

PUBLIC RELATIONS

Edmund B. Boatner, *Chairman*.....American School for the Deaf, West Hartford, Conn.
Roy Moore Stelle.....Colorado School for the Deaf, Colorado Springs, Colo.
Carl F. Smith.....North Dakota School for the Deaf, Devils Lake, N. Dak.
Elwood A. Stevenson.....California School for the Deaf, Berkeley, Calif.
John G. Nace.....Pennsylvania School for the Deaf, Mt. Airy, Pa.

EDUCATIONAL RESEARCH

Thomas K. Kline, *Chairman*.....Illinois School for the Deaf, Jacksonville, Ill.
John Yale Crouter.....Rhode Island School for the Deaf, Providence, R. I.
Edward R. Abernathy.....Ohio School for the Deaf, Columbus, Ohio
Lloyd Graunke.....Tennessee School for the Deaf, Knoxville, Tenn.
Marvin Clatterbuck.....Oregon School for the Deaf, Salem, Ore.

STATISTICS

E. W. Tillinghast, *Chairman*.....Arizona State School for the Deaf, Tucson, Ariz.
Fred L. Sparks.....Central New York School for the Deaf, Rome, N. Y.
Miss Harriet F. McLaughlin.....Junior High Public School 47, New York, N. Y.
A. S. Myklebust.....South Dakota School for the Deaf, Sioux Falls, S. D.
Kenneth Huff.....Wisconsin School for the Deaf, Delavan, Wis.
Virgil Epperson.....Washington State School for the Deaf, Vancouver, Wash.

RESOLUTIONS

Daniel T. Cloud, *Chairman*.....New York School for the Deaf, White Plains, N. Y.
E. A. McBride.....Alabama School for the Deaf, Talladega, Ala.
Mrs. Serena Foley Davis.....Willis & Elizabeth Martin Public School, Philadelphia, Pa.
L. B. Hall.....Oklahoma State School for the Deaf, Sulphur, Okla.
Harold Green.....Utah School for the Deaf, Ogden, Utah

TEACHER TRAINING AND CERTIFICATION

Howard M. Quigley, *Chairman*.....Minnesota School for the Deaf, Faribault, Minn.
George T. Pratt.....Clarke School for the Deaf, Northampton, Mass.
Roy G. Parks.....Arkansas School for the Deaf, Little Rock, Ark.
Richard G. Brill.....California School for the Deaf, Riverside, Calif.
Irving S. Fusfeld.....California School for the Deaf, Berkeley, Calif.
John F. Grace.....Texas School for the Deaf, Austin, Tex.
Hugo F. Schunhoff.....West Virginia School for the Deaf, Romney, W. Va.

The Convention of American Instructors of the Deaf

FOUNDED 1850

SECTION COMMITTEE LEADERS, 1957–1959

Auditory Training—Thomas H. Poulos.....Michigan School for the Deaf, Flint, Mich.
Curriculum Content—Harland J. Lewis.North Dakota School for the Deaf, Devils Lake, N. D.
Day Schools—Genevieve J. Drennen.....State Dept. of Education, Springfield, Ill.
Deaf Teachers—Mervin D. Garretson.....Montana School for the Deaf, Great Falls, Mont.
Displays and Exhibits—
Health and Physical Education—Lloyd R. Parks....Kansas School for the Deaf, Olathe, Kans.
Language—Albert Douglas.....Texas School for the Deaf, Austin, Texas
Multiple Handicaps—Margaret S. Kent.....Maryland School for the Deaf, Frederick, Md.
Preschool and Kindergarten—Elizabeth Titsworth
New Jersey School for the Deaf, West Trenton, N. J.
Principals and Supervising Teachers—Joe R. Shinpaugh, Jr.
American School for the Deaf, West Hartford, Conn.
Publications—Powrie V. Doctor.....Gallaudet College, Washington, D. C.
Reading—Frances I. Phillips.....Bruce Street Day School, Newark, N. J.
Research—Robert F. Frisina.....Gallaudet College, Washington, D. C.
Secondary Education—Mrs. Lillian R. Jones..Louisiana School for the Deaf, Baton Rouge, La.
Social Studies—Robert Baughman.....Kentucky School for the Deaf, Danville, Ky.
Speech—June Miller.....University of Kansas Medical Center, Kansas City, Kans.
Visual Education—Albert C. Esterline.....Minnesota School for the Deaf, Faribault, Minn.
Vocational Training—Howard H. Rahmlow....California School for the Deaf, Riverside, Calif.